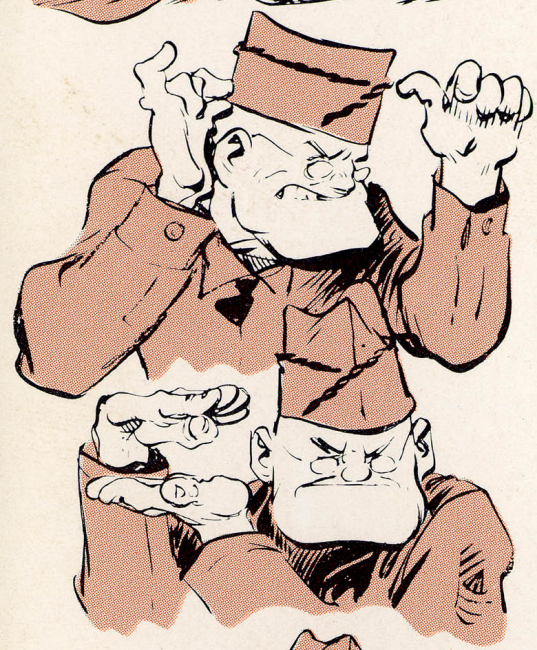
Issue 116
PS
1962 Series
THE
PREVENTIV
MAINTENANC
MONTHL
POST
POOL
OPENS
TODAY
Will Eisner

# *Did you hear the one about—*

There was once a young private named Dave,
Who would keep a parts hoard in a cave—
He was trying to quit,
He would often admit—
When he thought of the troubles they gave.

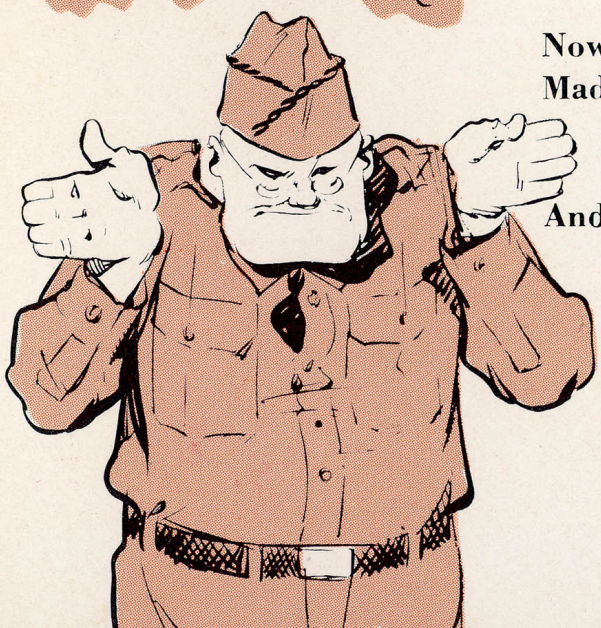


But he worked for a sergeant named Kent,
Whose IN-basket perpetually bent
Under paperwork trouble
That always seemed double,
No matter how much time was spent.

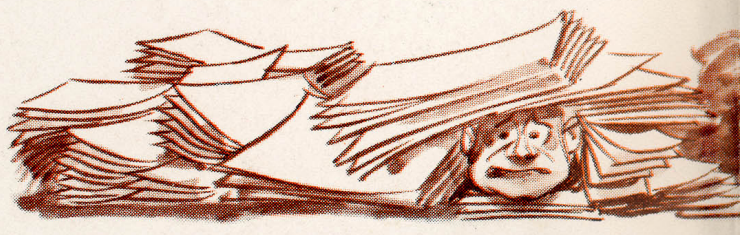


Till one day came The Word, from S-3—
That next week they would ship out, by sea!
The results were most horrid,
Their curses were torrid
And their bawls were heard loud, long and free.

'Cause their parts load was down below half;
And to them, demand rates were a laugh.
As for parts in the cave—
There was nothing to save—
So they both braced themselves for the gaff!



Now they know that their motives ulterior
Made their combat potential inferior.
Though they've doubled their pace,
They can never save face—
And their future looks drearier and drearier.



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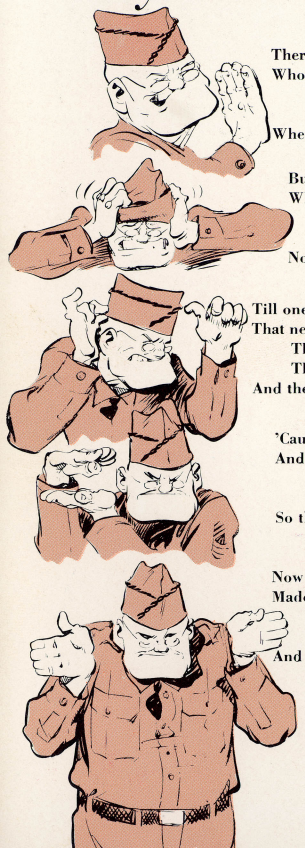

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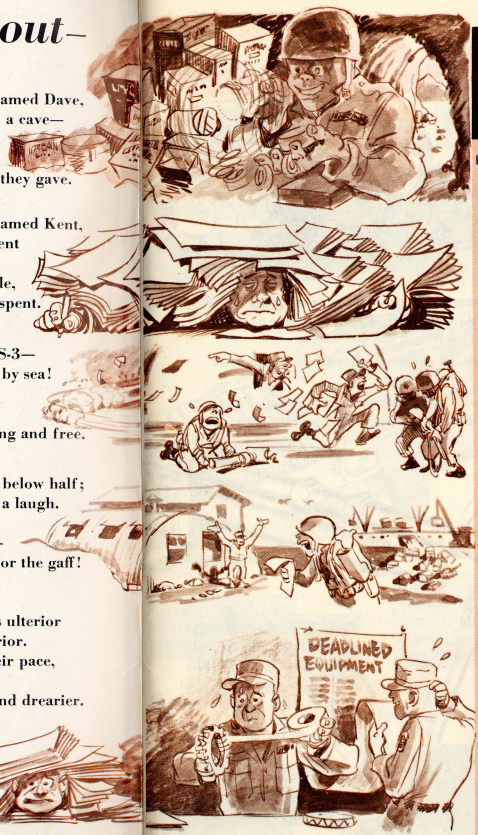



# PS
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BE YOUR OWN INSPECTOR ON THE . . .

# M60 7.62-

It'll shoot.

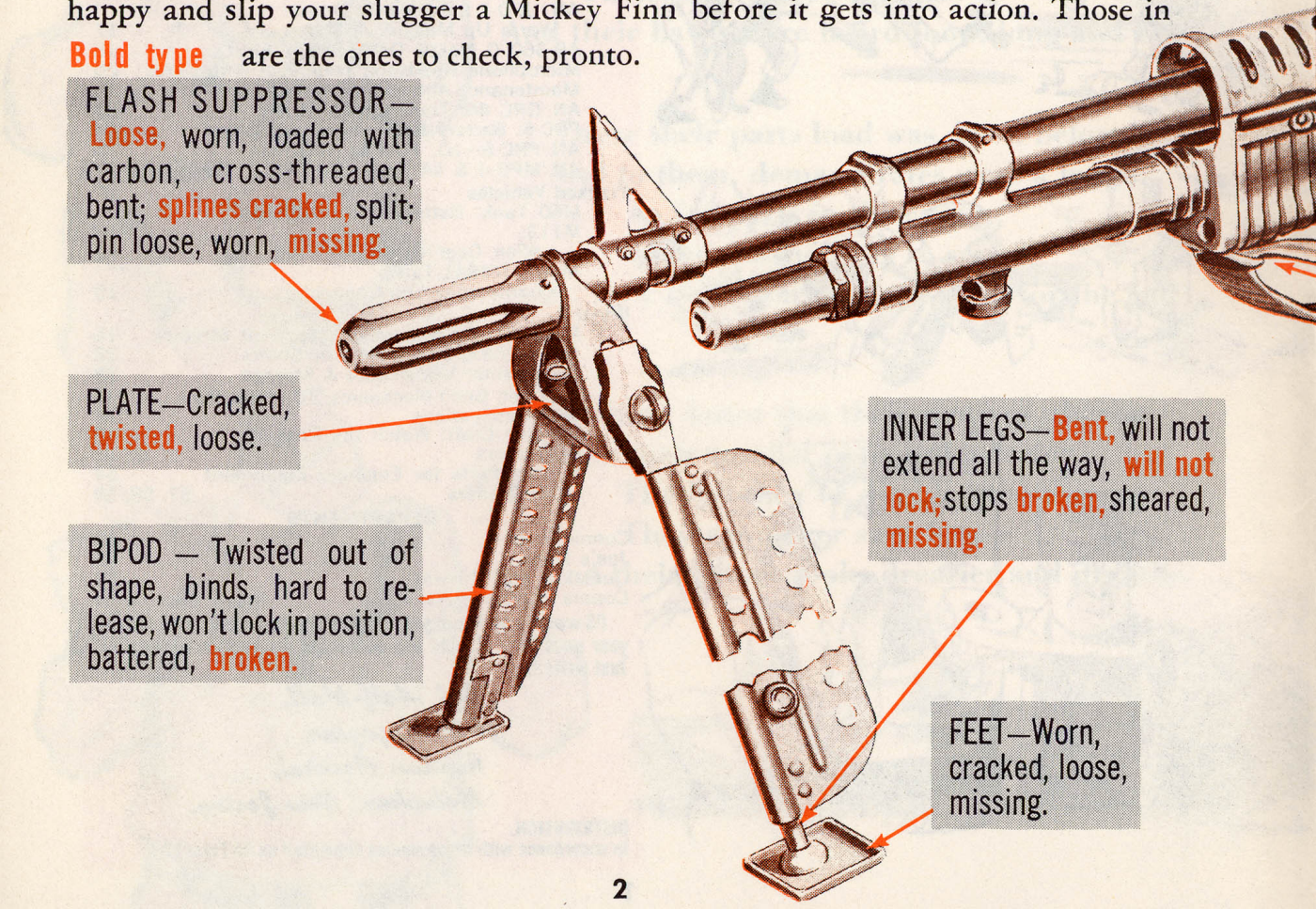
It'll scoot (when you lug it).

And it communicates in a language all its own.

No Fancy Dan . . . the M60 machine gun is a rugged slugger that gives out a lot of fire power in a hurry and has nailed down the top dog honors in the fight for real ranks since it first hit the field.

But, rugged or not—the M60 still needs its share of preventive maintenance medicine to keep its fighting edge.

Here's a guided tour of the major trouble spots that can make inspectors unhappy and slip your slugger a Mickey Finn before it gets into action. Those in **Bold type** are the ones to check, pronto.



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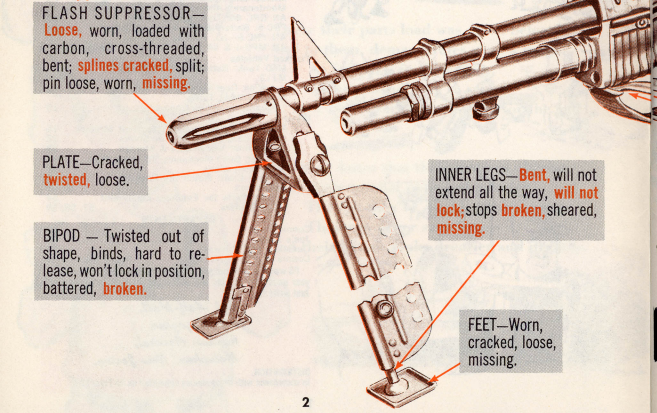


FLASH SUPPRESSOR—**Loose,** worn, loaded with carbon, cross-threaded, bent; **splines cracked,** split; pin loose, worn, **missing.**

PLATE—Cracked, **twisted,** loose.

BIPOD — Twisted out of shape, binds, hard to release, won't lock in position, battered, **broken.**

INNER LEGS—**Bent,** will not extend all the way, **will not lock;** stops **broken,** sheared, **missing.**

FEET—Worn, cracked, loose, missing.

CARRYING HANDLE—Twisted, bent, missing, sticks, won't fold down properly; plunger loose, binds, broken, missing; spring weak, missing.

HINGED BUTT PLATE—Loose, twisted, **broken, missing,** will not close or open all the way.

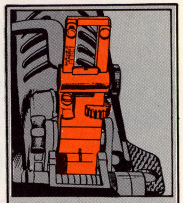
BUTT STOCK—Rivets loose, worn, **missing;** latch bent, weak, **will not release;** spring worn, **missing;** butt can be pulled off without releasing latch.

BARREL LOCK LEVER—Loose, **broken,** bent, binds, **missing,** will not release or lock barrel.

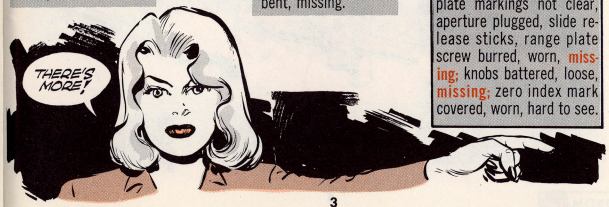
GRIP POINTS—Rivets worn, loose, **missing;** rubber coating worn, chipped, oily, not bonded right, split.

SLING — Frayed, split, worn; clamps weak, faulty.

SWIVELS — Battered, twisted, loose, missing, do not move freely; washer key bent, missing.



REAR SIGHT—Bent, twisted, **busted, missing,** range plate markings not clear, aperture plugged, slide release sticks, range plate screw burred, worn, **missing;** knobs battered, loose, **missing;** zero index mark covered, worn, hard to see.



# MM MACHINE GUN

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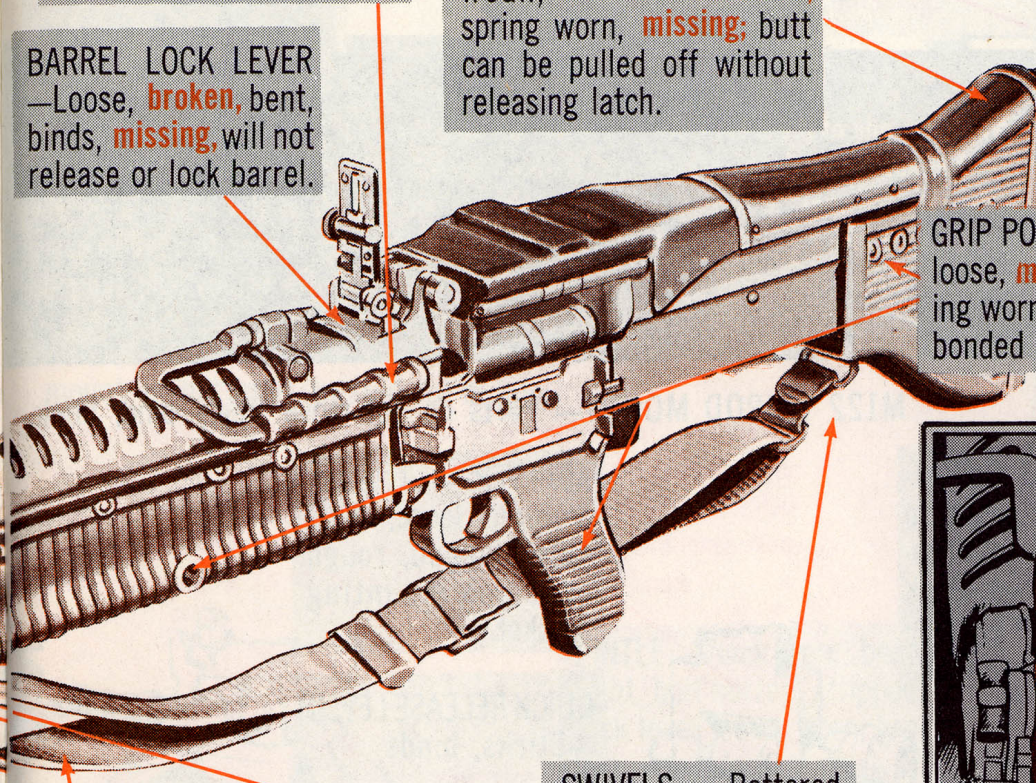

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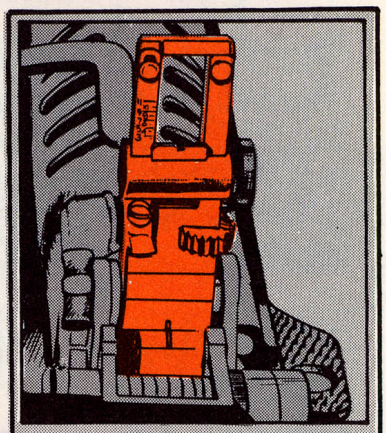

SLING — Frayed, split, worn; clamps weak, faulty.

SWIVELS — Battered, twisted, loose, missing, do not move freely; washer key bent, missing.

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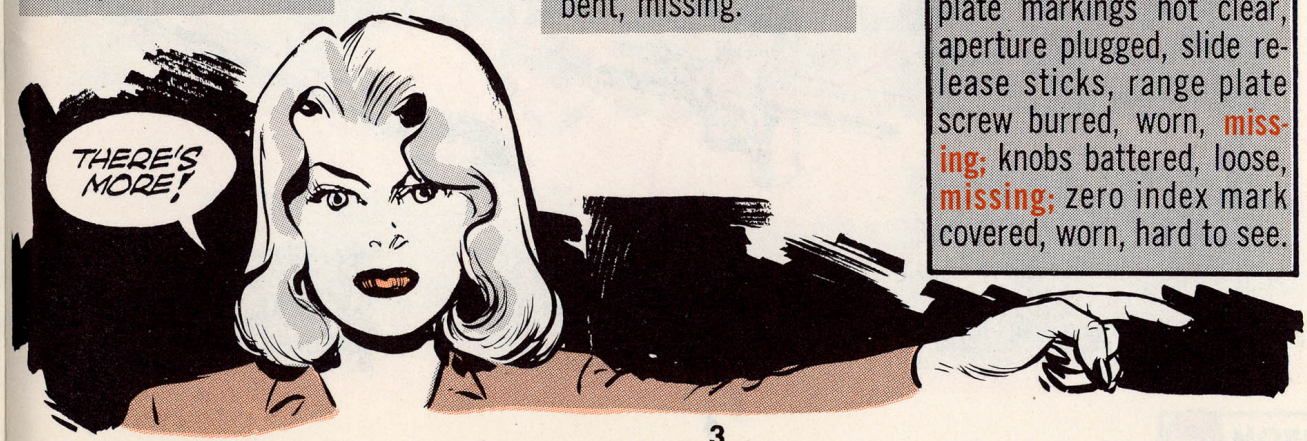


FRONT SIGHT — **Bent out of line, busted off, loose, missing;** pins worn, bent, **missing.**

GAS CYLINDER — **Burred, cracked, dented,** filled with carbon, eroded.

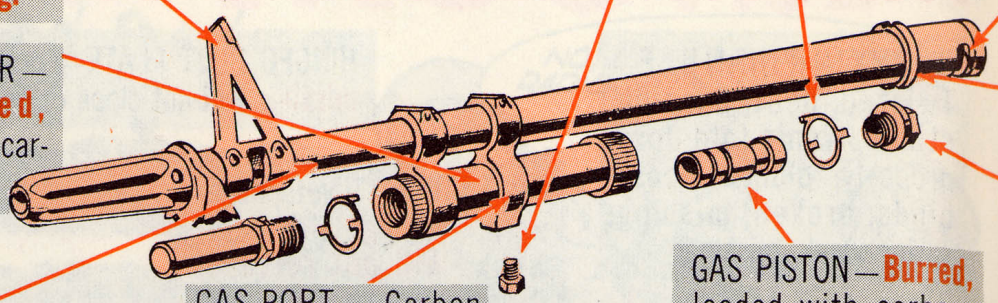
BARREL — Twisted, bulges, **dented.**

GAS CYLINDER PLUG — **Worn,** loose, excessive carbon, threads burred.

WASHERS — Tabs raised, split, loose, **missing.**

GAS PORT — Carbon fouled, **plugged.**

GAS PISTON — **Burred,** loaded with carbon, does not slide freely.



**CAUTION—The gas cylinder is one of the main trouble spots. Don't raise the tabs on the key washers when you're taking the cylinder apart. It weakens the metal and the tabs bust off. Use the wrench end of your combination tool to loosen the threads and leave the washers on the gas cylinder nut and extension.**

**Remember when you clean the gas cylinder the only thing you use is bore cleaner. Don't—like never—use any kind of abrasive or anything sharp to scrape the parts clean.**

M122 TRIPOD MOUNT— Parts do not move freely, bind, stick;

TRAVERSING AND ELEVATING HANDWHEEL—Hard to turn, battered, burred, missing, threads burred, click pin and spring worn, missing.

MIL INDICATOR Bent, loose, **broken, missing.**

TRAVERSE BAR — Dented, bent, mil markings blurred, unreadable.

TRAVERSING AND ELEVATING MECHANISM—Cracked, split, worn, screws burred, sheared, **missing;** parts hard to move, stick, bind.

ADAPTER — Twisted, battered, loose, channels clogged, rough edges on mounting bracket.

QUICK RELEASE LEVER —Sticks, binds, **broken, missing.**

MIL MARKINGS — Blurred, faded, unreadable.

LOCK LEVER — **Broken,** will not hold, **missing.**

SLIDING SLEEVE —Sticks, burred, cracked.

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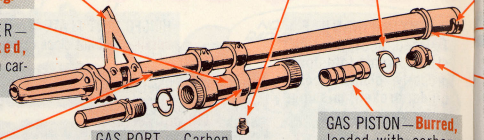

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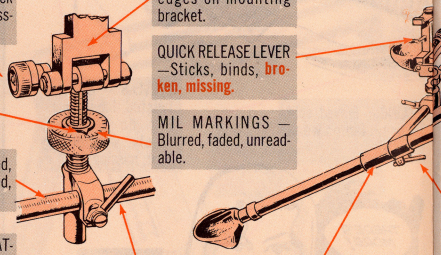


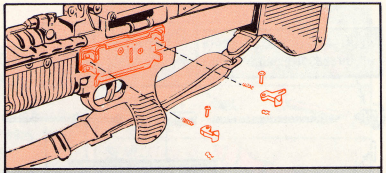


BARREL LOCKING SOCKET—Burred, worn, cracked.

BORE & CHAMBER — **Worn, pitted,** carbon, metal fouled.

GAS CYLINDER NUT—Split, loose, missing, threads stripped, burred.

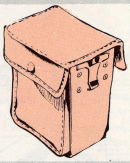
GAS CYLINDER EXTENSION—**Cracked,** loose, threads burred.



MAGAZINE BRACKET ASSEMBLY — Powder- fouled, worn, **broken;** latch bent, twisted, worn, **missing;** clip pin and spring, worn, weak, **missing.**

**And when you're putting things back together . . . make sure the head of the gas piston faces the rear —toward the trigger—before you start replacing the gas cylinder nut and extension.**

MAGAZINE — Split, frayed, worn; clip bent, broken twisted, missing.



mount is battered, twisted out of line.

**If the nameplate's been banged around so much that it's almost unreadable—have the serial number of the mount hand stamped on the rear face of the head assembly. If you can't read the serial number, you can get a substitute number from Headquarters, Ordnance Weapons Command, ATTN: ORDOW-FM-W, Rock Island, Illinois.**

PINTLE—Shank worn, bent, tight, bolt burred, stripped; lock lever loose, worn, broken, won't lock properly.

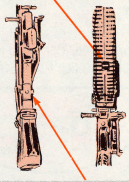
PLATFORM — Cracked, burred, front lug bent, twisted, **missing;** latch worn, bent, loose, **broken.**

HEAD — **Split,** twisted, burred, bolts loose, sheared, **missing.**

SLEEVE LATCH — **Broken,** does not latch or lock, bent, missing; spring worn, weak, **missing.**

LEGS — Dented, bent, burred; feet loose, bent, **missing.**

MOUNTING RECESS—Split, worn; front locating pin bent, worn, broken, missing.



TRIPOD PLATE — Battered, twisted, loose, worn, **missing,** burred, recess plugged.



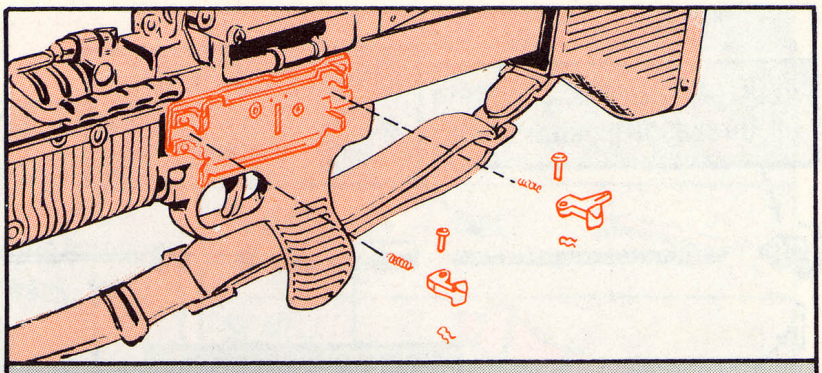
MORE

BARREL LOCKING SOCKET—Burred, worn, cracked.

BORE & CHAMBER — **Worn, pitted,** carbon, metal fouled.

GAS CYLINDER NUT—Split, loose, missing, threads stripped, burred.

GAS CYLINDER EXTENSION—**Cracked,** loose, threads burred.



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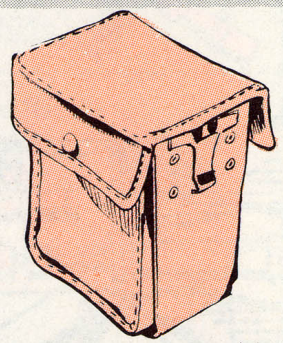

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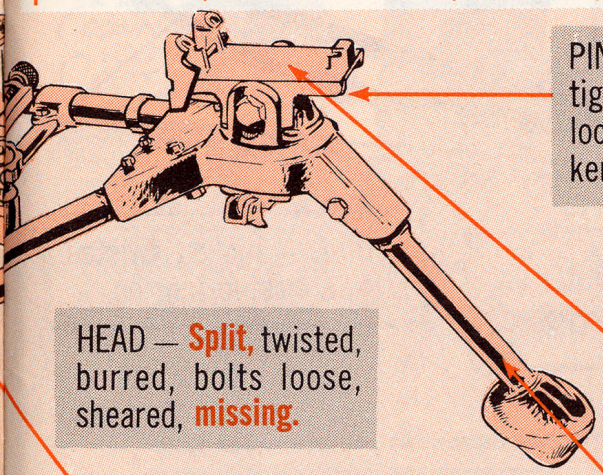

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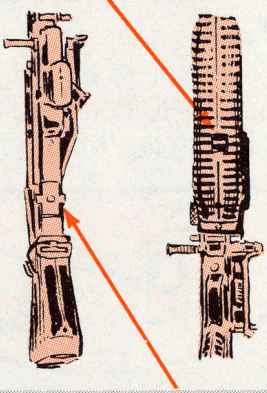
HEAD — **Split,** twisted, burred, bolts loose, sheared, **missing.**

SLEEVE LATCH — **Broken,** does not latch or lock, bent, missing; spring worn, weak, **missing.**

LEGS — Dented, bent, burred; feet loose, bent, **missing.**

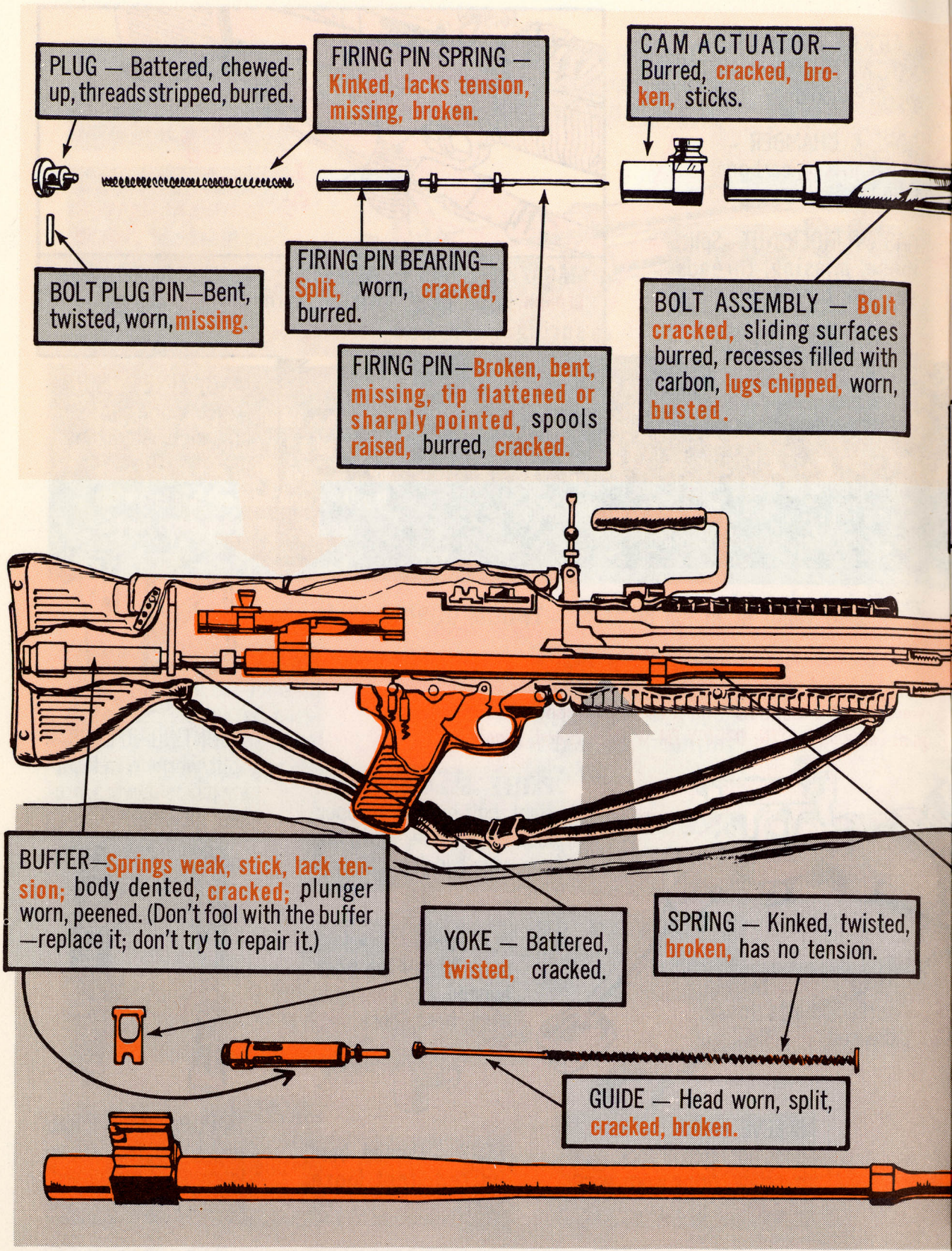
MOUNTING RECESS—Split, worn; front locating pin bent, worn, broken, missing.



TRIPOD PLATE — Battered, twisted, loose, worn, **missing,** burred, recess plugged.



P.S. MORE


PLUG — Battered, chewed-up, threads stripped, burred.
FIRING PIN SPRING — Kinked, lacks tension, missing, broken.
CAM ACTUATOR— Burred, cracked, broken, sticks.
BOLT PLUG PIN—Bent, twisted, worn, missing.
FIRING PIN BEARING— Split, worn, cracked, burred.
FIRING PIN—Broken, bent, missing, tip flattened or sharply pointed, spools raised, burred, cracked.
BOLT ASSEMBLY — Bolt cracked, sliding surfaces burred, recesses filled with carbon, lugs chipped, worn, busted.
BUFFER—Springs weak, stick, lack tension; body dented, cracked; plunger worn, peened. (Don't fool with the buffer —replace it; don't try to repair it.)
YOKE — Battered, twisted, cracked.
SPRING — Kinked, twisted, broken, has no tension.
GUIDE — Head worn, split, cracked, broken.

PLUG — Battered, chewed-up, threads stripped, burred.

FIRING PIN SPRING — Kinked, lacks tension, missing, broken.

CAM ACTUATOR— Burred, cracked, broken, sticks.

EJECTOR PIN—Busted, chipped, worn, missing.

EJECTOR AND SPRING- Broken, weak, missing, loaded with carbon, spring weak, lacks tension.

BOLT PLUG PIN—Bent, twisted, worn, missing.

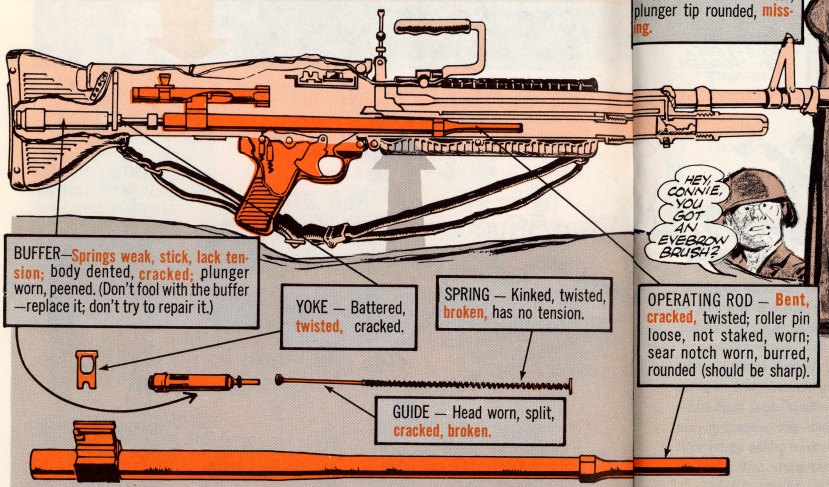
FIRING PIN BEARING— Split, worn, cracked, burred.

FIRING PIN—Broken, bent, missing, tip flattened or sharply pointed, spools raised, burred, cracked.

BOLT ASSEMBLY — Bolt cracked, sliding surfaces burred, recesses filled with carbon, lugs chipped, worn, busted.

EXTRACTOR—Chipped, loose, burred, broken.

EXTRACTOR SPRING AND PLUNGER—Worn, bent, broken, won't hold extractor; plunger tip rounded, missing.




BUFFER—Springs weak, stick, lack tension; body dented, cracked; plunger worn, peened. (Don't fool with the buffer—replace it; don't try to repair it.)

YOKE — Battered, twisted, cracked.

SPRING — Kinked, twisted, broken, has no tension.

GUIDE — Head worn, split, cracked, broken.

OPERATING ROD — Bent, cracked, twisted; roller pin loose, not staked, worn; sear notch worn, burred, rounded (should be sharp).

## TRIGGER MECHANISM

TRIGGER ASSEMBLY — Worn, will not pivot, burred.

TRIGGER PIN — Bent, worn, burred.

SEAR—Worn, cracked, lip rounded (should be pointed).

SEAR PLUNGER AND SPRING —Weak, worn, missing; end burred, chipped.

SAFETY LEVER — Worn, stripped, won't lock, sticks.

SAFETY PLUNGER AND SPRING — Broke, cracked, worn, will not engage safety lever.

HOLDING PIN — Split, twisted, burred, missing.

SPRING LOCK — Bent, twisted, cracked, has no tension.

TRIGGER HOUSING — Housing cracked bent; locking notch worn, broken.





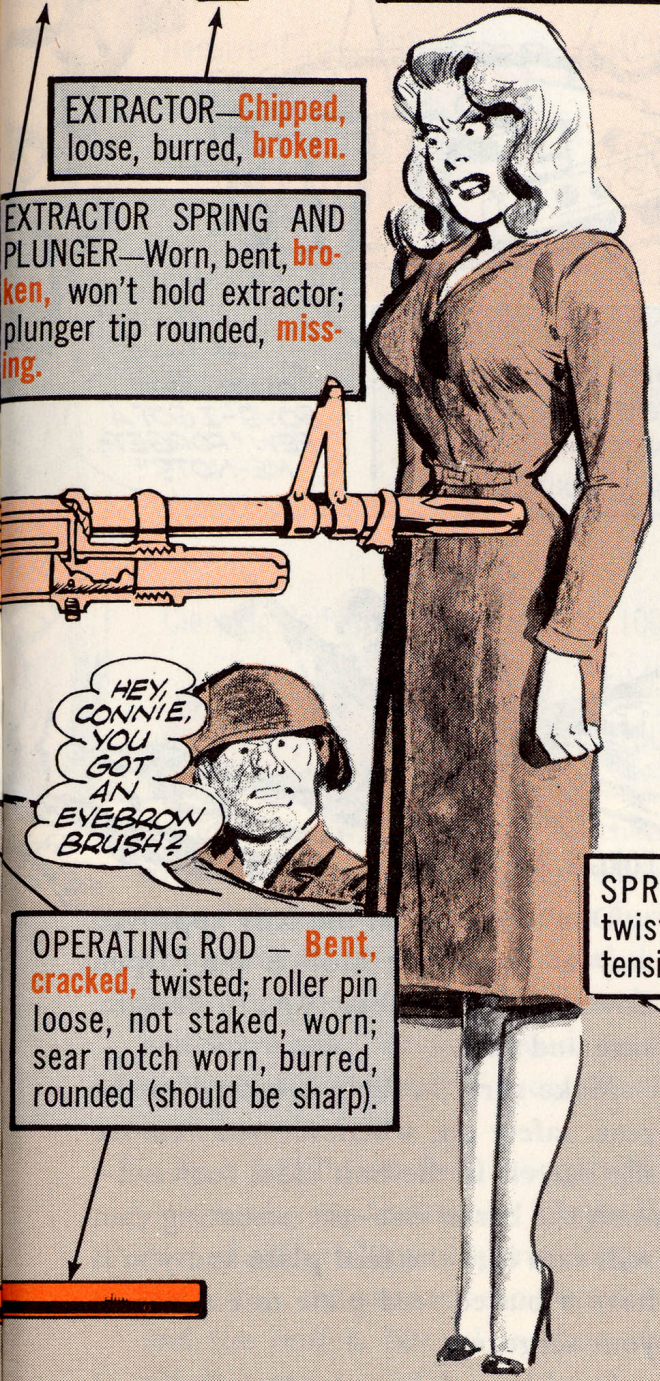
MORE

EJECTOR PIN—**Busted, chipped,** worn, **missing.**

EJECTOR AND SPRING- **Broken,** weak, **missing,** loaded with carbon, spring weak, lacks tension.

EXTRACTOR—**Chipped,** loose, burred, **broken.**

EXTRACTOR SPRING AND PLUNGER—Worn, bent, **broken,** won't hold extractor; plunger tip rounded, **missing.**




OPERATING ROD — **Bent, cracked,** twisted; roller pin loose, not staked, worn; sear notch worn, burred, rounded (should be sharp).

## TRIGGER MECHANISM

TRIGGER ASSEMBLY — Worn, will not pivot, burred.

TRIGGER PIN — Bent, worn, burred.

SEAR—**Worn, cracked, lip rounded** (should be pointed).

SEAR PLUNGER AND SPRING —Weak, worn, **missing;** end burred, chipped.

SAFETY LEVER — **Worn,** stripped, **won't lock,** sticks.

SAFETY PLUNGER AND SPRING — **Broke,** cracked, worn, **will not engage safety lever.**

HOLDING PIN — Split, twisted, burred, **missing.**

SPRING LOCK — Bent, twisted, cracked, has no tension.

TRIGGER HOUSING — Housing cracked bent; locking notch worn, **broken.**



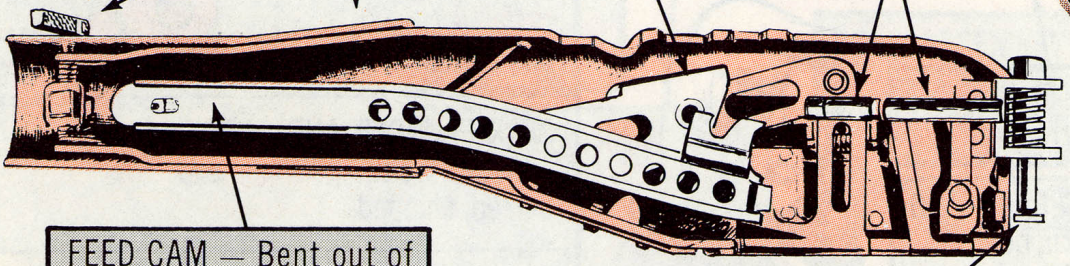
P.S. MORE

FEED COVER ASSEMBLY— **Feed cam and cartridge guides burred, loose,** rivets worn, sheared, missing.

COVER LATCH LEVER — Twisted, **broke,** loose, **will not lock;** latch spring weak, worn, **missing,** has no tension.

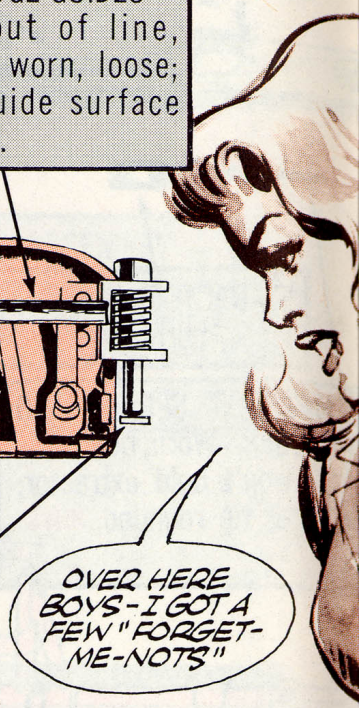
FEED CAM LEVER—Slotted ends cracked, worn, burred, not secure.

CARTRIDGE GUIDES — Bent out of line, burred, worn, loose; rear guide surface rounded.

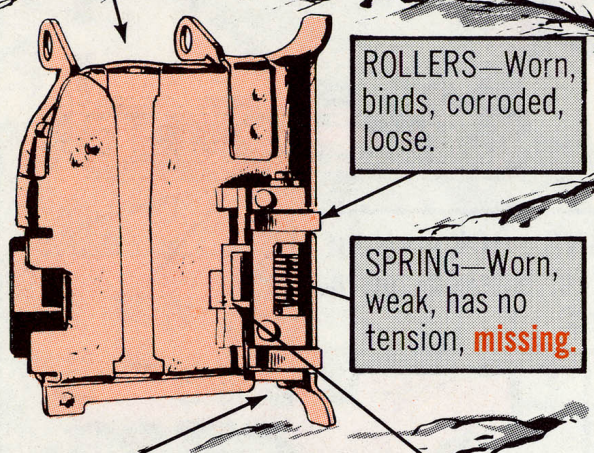


FEED CAM — Bent out of shape, channel cracked, burred; return spring weak, lacks tension, **missing.**

COVER SPRING ASSEMBLY — Spring weak, **broken, missing,** has no tension; hinge pin battered, worn; **hinge cracked,** loose, twisted out of line.




FEED TRAY ASSEMBLY—**Bent,** cracked, loose, **twisted.**

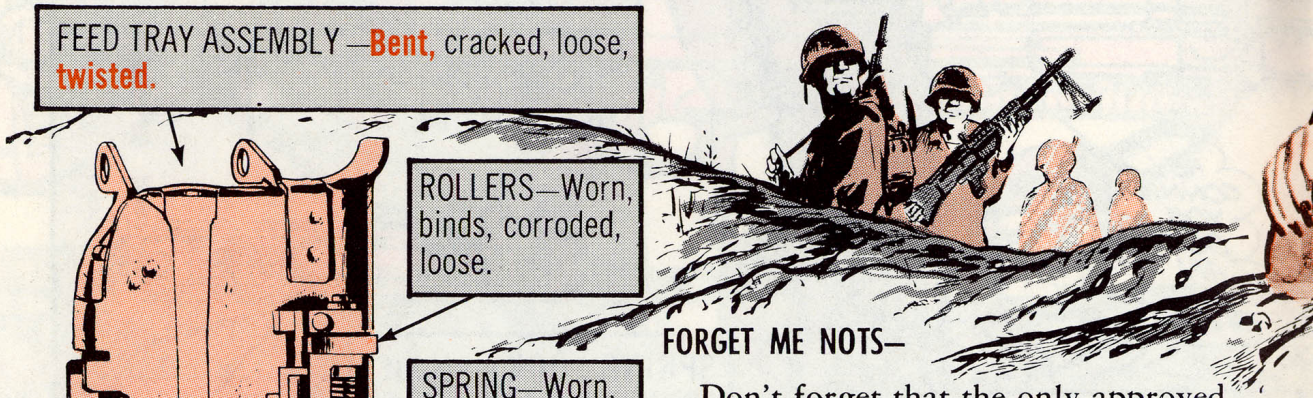


ROLLERS—Worn, binds, corroded, loose.

SPRING—Worn, weak, has no tension, **missing.**

SHAFT—Burred, worn, **broken.**

BELT HOLDING PAWL — Split, bent, worn, **missing.**

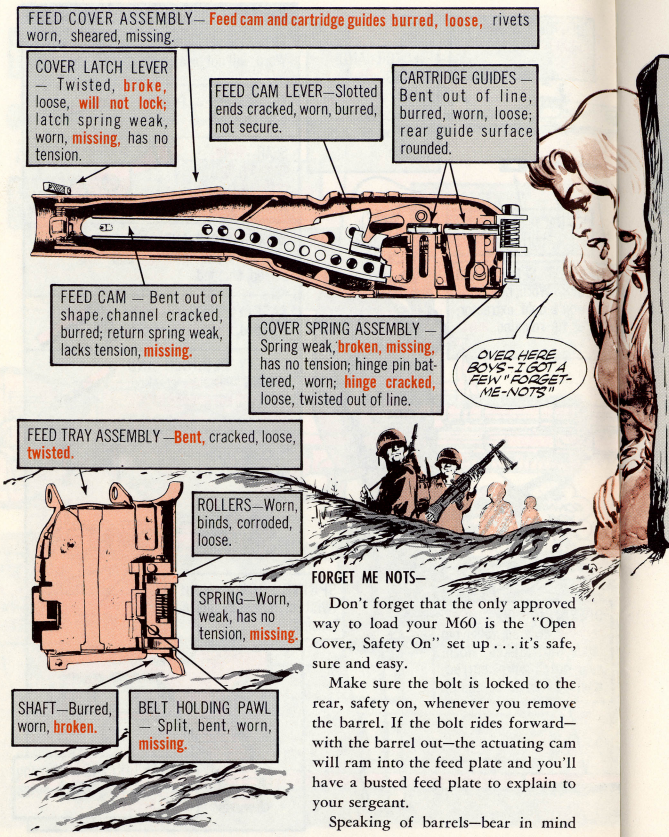


## FORGET ME NOTS—

Don't forget that the only approved way to load your M60 is the "Open Cover, Safety On" set up . . . it's safe, sure and easy.

Make sure the bolt is locked to the rear, safety on, whenever you remove the barrel. If the bolt rides forward—with the barrel out—the actuating cam will ram into the feed plate and you'll have a busted feed plate to explain to your sergeant.

Speaking of barrels—bear in mind

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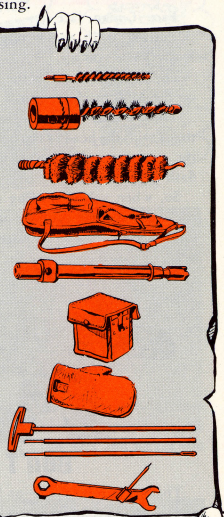
Speaking of barrels—bear in mind the idea's to swap barrels often enough to divide the work load. The extra barrel is used to share the wear and tear during firing and not to replace a barrel that's been worn to a nub. It's strictly a share-and-share-alike deal . . . good preventive maintenance calls for equal use of each barrel.

Rust is still your Public Enemy No. 1—so check your M60 daily. Keep a light coat of oil on all metal parts except the gas piston, the inside of the gas cylinder and the buffer. No oil in these three places—ever.



Now . . . here's the equipment you should have to keep your M60 up to par—maintenance wise. See if any of it is busted or missing.

| Item | Federal Stock Number |
|---|---|
| Bore Cleaning Brush | 1005-556-4174 |
| Chamber Cleaning Brush | 1005-690-3115 |
| Receiver Cleaning Brush | 1005-650-4508 |
| Carrying Case | 1005-605-2201 |
| Ruptured Cartridge Extractor | 4933-652-9950 |
| Magazine Assembly | 1005-691-1639 |
| Asbestos Mitten | 8415-266-8843 |
| Cleaning Rod (three sections) | 1005-650-8237 |
| Combination Tool | 1005-690-3766 |



You don't have to clean the gas cylinder every time the weapon is cleaned. It's made of rust resisting metal and needs cleaning only when you get short recoil or the weapon acts sluggish. Disassembling the gas cylinder too often leads to unserviceable parts and trouble.

The three pubs that combine to give you all the scoop you need to keep your M60 razor sharp are TM 9-1005-224-12 (22 Jun 60), TM 9-1005-224-20P (19 Aug 60) and FM 23-67 (Jun 60). Add LO 9-1005-224-10 (25 Aug 60) to the picture and you're in business.

END

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|---|---|
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PS END

Face it, man, face it.

Putting it in the wrong way can really louse you up.

For example . . . take the gas piston on the M60 machine gun.

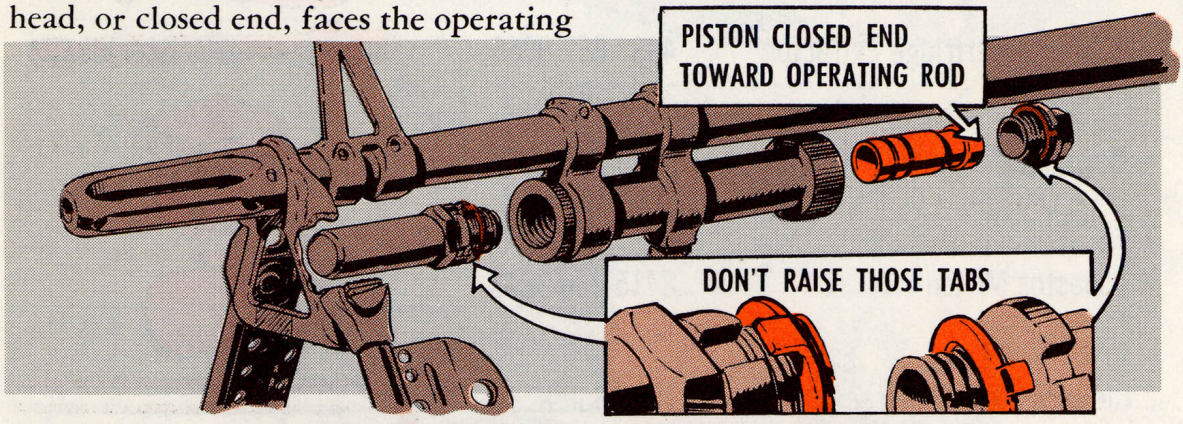
There's only one way it'll work—that's with the head of the piston facing the rear—toward you—away from the flash suppressor.

So, when you're putting the piston back into the gas cylinder after cleaning, make sure, doubly sure, that the head, or closed end, faces the operating rod before you replace the gas cylinder nut and extension.

It's easy—real easy—to goof on this 'cause the piston'll go in the wrong way as smoothly as it'll go in the right way.

But putting it in backwards can knock your MG out of action just as easy—so watch this tricky deal.

If you need any reminding of this message, just check out TM 9-1005-224-12 (Jun 60) and you'll see the word spelled out loud and clear.




## DON'T RAISE THOSE TABS

That's the new word—as far as the tabs on the two key washers of the gas cylinder on the M60 machine gun are concerned.

The tabs ratchet on the serrations of the gas cylinder and act as extra brakes to keep things from coming unscrewed during firing.

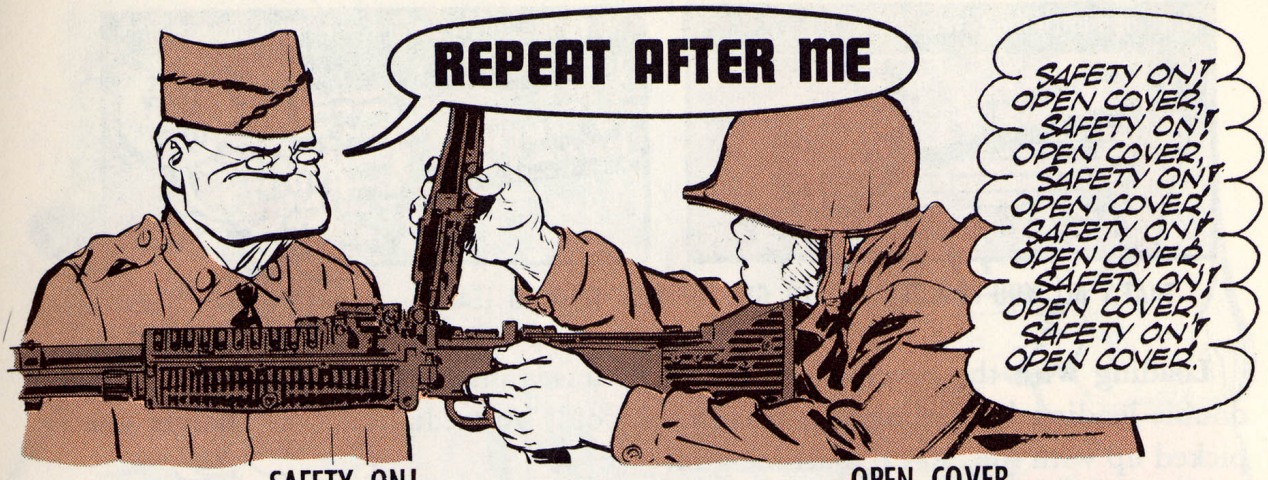
Raising them while disassemblying the gas cylinder for cleaning causes them to snap off.

The metal won't stand the gaff—and besides it's not necessary.

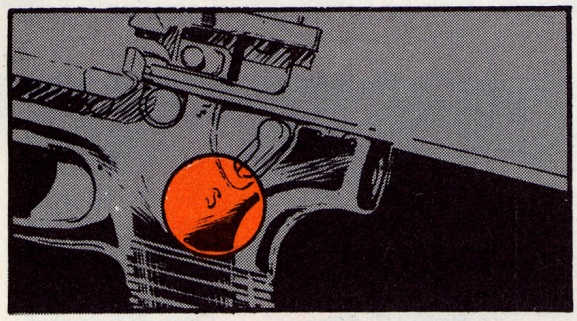
To remove the gas cylinder nut and gas cylinder extension, all you do is apply a little elbow grease with the wrench end of your combination tool (FSN 1005-690-3766).

If the nut and extension are on so tight you can't loosen 'em with the wrench—skip it. Ship the M60 back to your support, 'cause it needs major surgery.

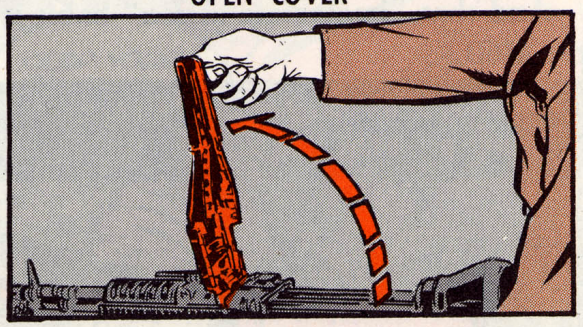
So, before you start using the tab raising poop that's in para 42 of TM 9-1005-224-12, talk it over with your support unit because the word has been passed to them that it isn't to be done. If you do this life will be a little easier and your supply man can retire from the wholesale washer replacement business.




SAFETY ON!



OPEN COVER



And keep repeating it until you remember it as well as your name, rank and serial number.

'Cause the "safety on, open cover" method is the only one to use when it comes to loading the M60 7.62-mm machine gun.

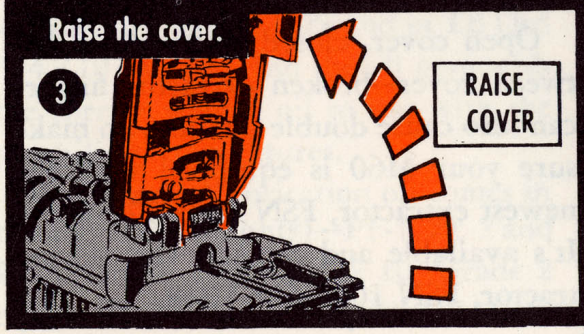
Follow the deal spelled out in TM 9-1005-224-12 (Jun 60) and forget you ever heard of any other way of loading.

Like it says . . . all you have to do is—

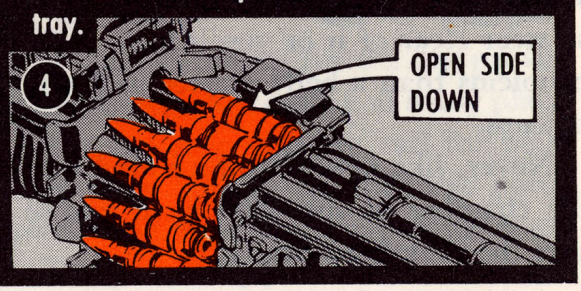
Pull the cocking lever fully to the rear.

Put the safety lever on "S".

Raise the cover.

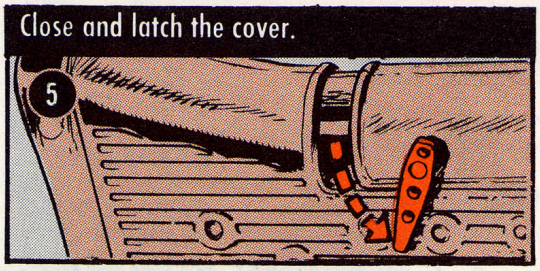


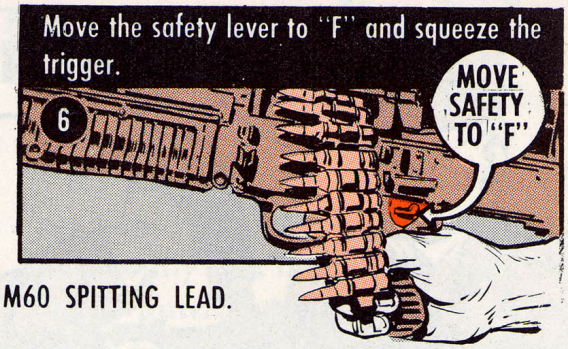

Place the ammo (open side down) on the feed tray.






P.S. MORE

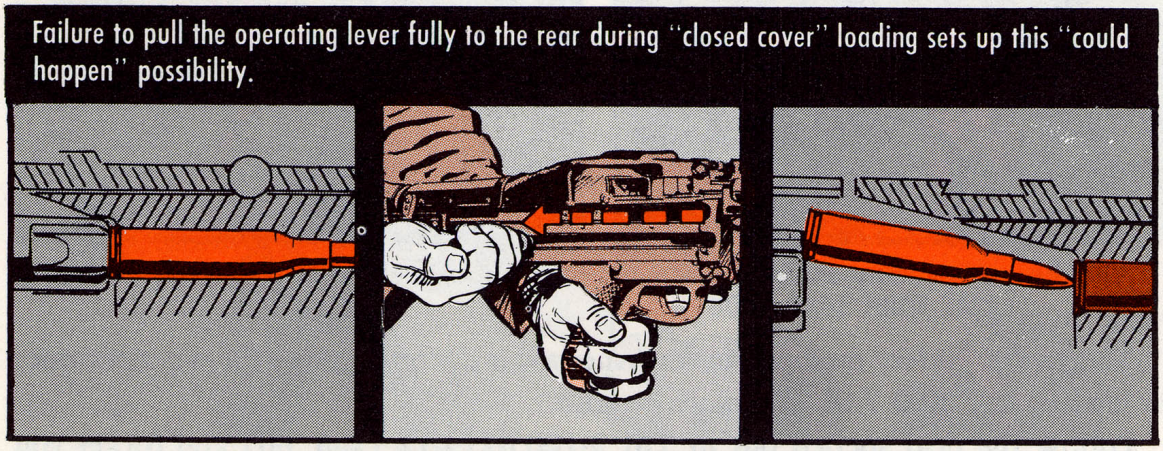



THAT'S ALL YOU'VE GOTTA DO TO GET THE M60 SPITTING LEAD.

Loading with the cover closed is **out** because, among other things, it led to double-loading by getting you back to the old "immediate action" habits you picked up with the .30-cal machine gun.

And that "immediate action" habit is a good one to kick—when you're firing the M60.




**A round can be chambered, but the rim of the cartridge is not seated deep enough for the extractor to grab it or the bolt doesn't rotate into the locked position.**

**So-o-o, when you squeeze the trigger and nothing happens—you react by yanking back on the operating handle. Right? Good old "immediate action." Great for the .30-cal machine gun, but murder with the M60—because now you're walking on egg shells.**

**The first round fails to eject and your "immediate action" picks up another round and rams it into the still chambered first round—making for a hairy situation.**

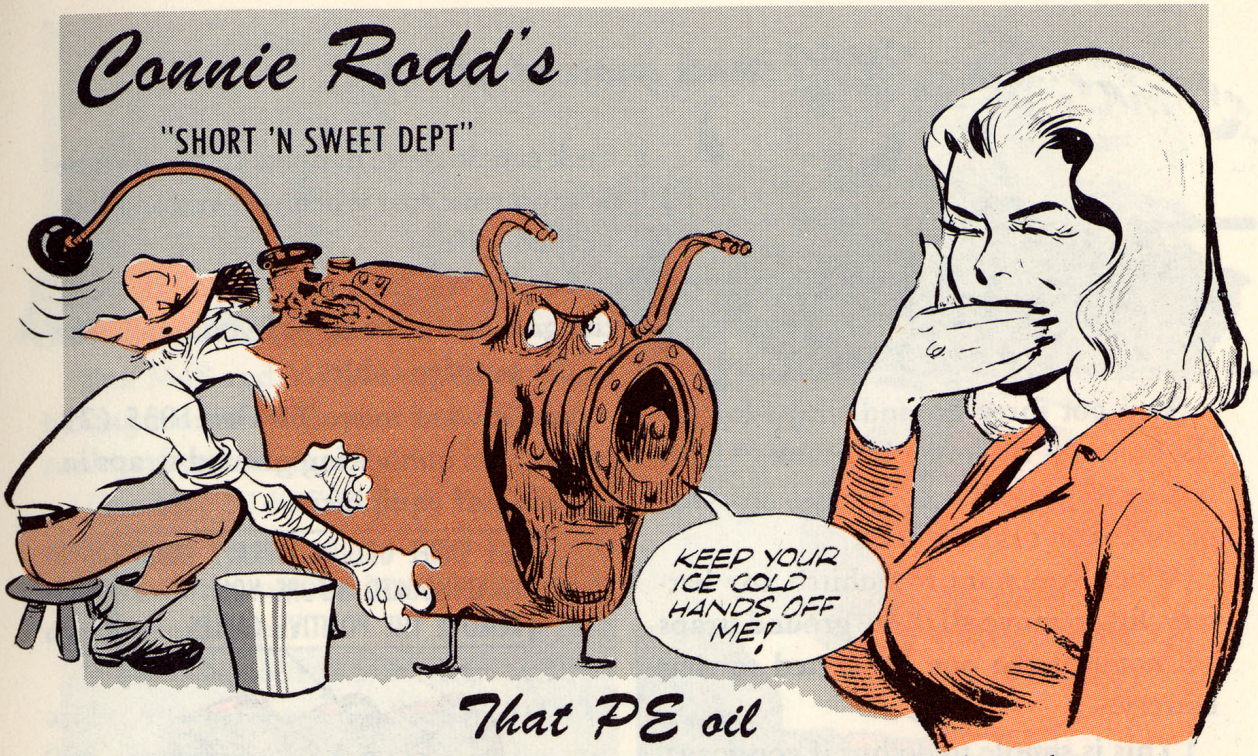
Remember—the M60 fires from an open bolt, as compared to the closed bolt deal with the .30-cal machine gun.

Immediate action on the M60 buys you nothing but immediate trouble . . . so steer clear of it or you'll have more problems than a belly dancer with the hiccups.

Never, like never, load a round into the chamber of the M60 until you're sure the chamber's empty.

And, unless you come equipped with Superman vision, the only way to be sure is to open the cover, put it on safe and look.

Open cover, closed cover—or in between cover—broken extractor fingers can also cause double loading. So make sure your M60 is equipped with the newest extractor, FSN 1005-779-6030. It's available and replaces the old extractor, FSN 1005-608-5048.




# That PE oil

Whoa Man! Like STOP the drainin' of that preservative (PE) oil in those wheeled or tracked vehicle engines and tracked vehicle transmissions . . . that is, till you've gotten some use outta it.

You want to use this PE oil (MIL-L-21260) in engines fresh from storage till the first oil change comes due (paras 27g and 29b, TB 9-299/1, dated 6 September 1960).

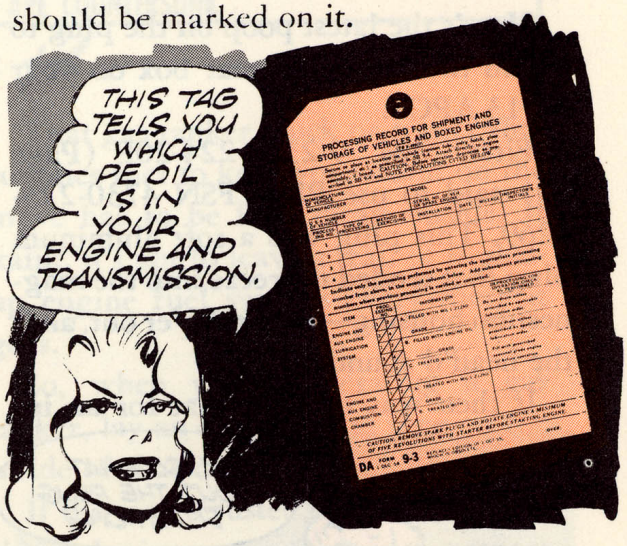
The reason's simple. PE oil is the same oil as OE, only better. It has a preservative added.

The one (and only) time you'd drain the PE oil right away is when the oil weight and the temperature don't match —same as with OE. Always check the key in your vehicle LO's and in TB Ord 694 (19 Oct 61) and they'll give with the correct weight oil to use with the prevailing temperatures.

Preservative lubrication oil comes in three grades (weights)—PE-1, PE-2 and PE-3. Grade 1 equals OE 10. Grade 2 equals OE 30. Grade 3 equals OE 50.

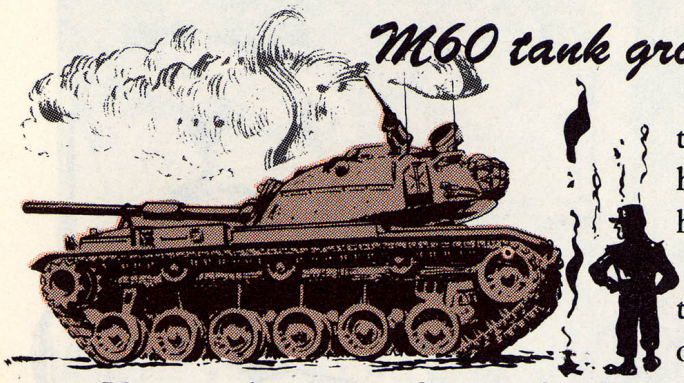
So now you wanta know how you can tell what's in your vehicles when you get them? OK, this is it.

Attached to the vehicle, or inside the record jacket, is a tag (DA Form 9-3) and the grade oil (PE) or otherwise should be marked on it.




If your sleuthing for the tag proves fruitless—you just can't find it any place —then the next step's to call for help from your support unit. You've gotta know what weight oil was put into them and they can help you.

# M60 tank ground straps



You got three ground straps for the six batteries in your M60 tank. That's on account of you need three straps. One or two won't do the trick.

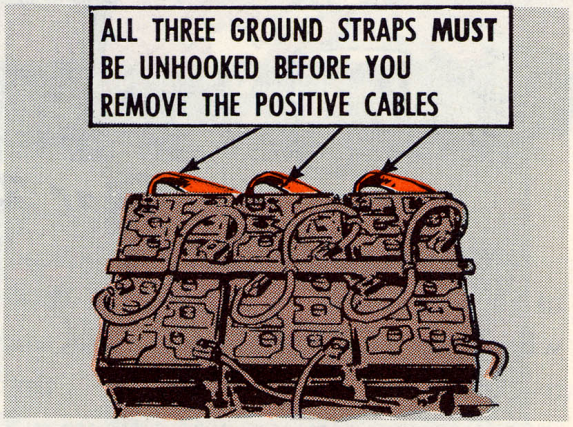
When you want to unhitch any battery, first remove **all three** ground straps . . . not just the one connected to that battery.

This is simple to do but if you forget it your positive cable can arc if you let it accidentally touch any grounded part of the tank.

An arcing cable in a combat-loaded tank can do more damage than a blonde hair on your coat when you've got a red-headed wife.

So play it safe and remove all three of the ground straps before you touch one of the positive cables.

You'll want to see TB Ord 1035 (29 Jan 62) on unhooking ground straps in any kind of equipment.



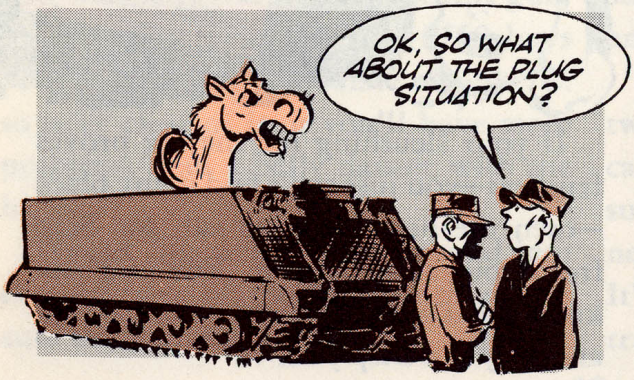

# Steel plug

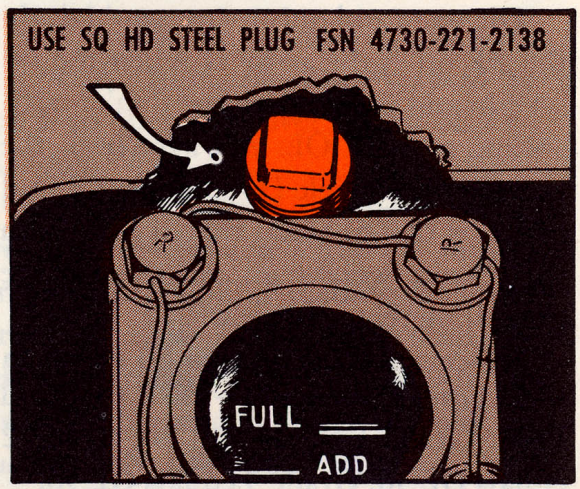
Here's the latest poop on the plug to use in the fan drive gear box on your M113 APC's.

First, TM 9-2300-224-20P (Page 50) said to use Plug, FSN 4730-223-9269. This plug was a soft aluminum plug that tended to freeze into the magnesium housing—try to take 'er out, and, the head'd round off.

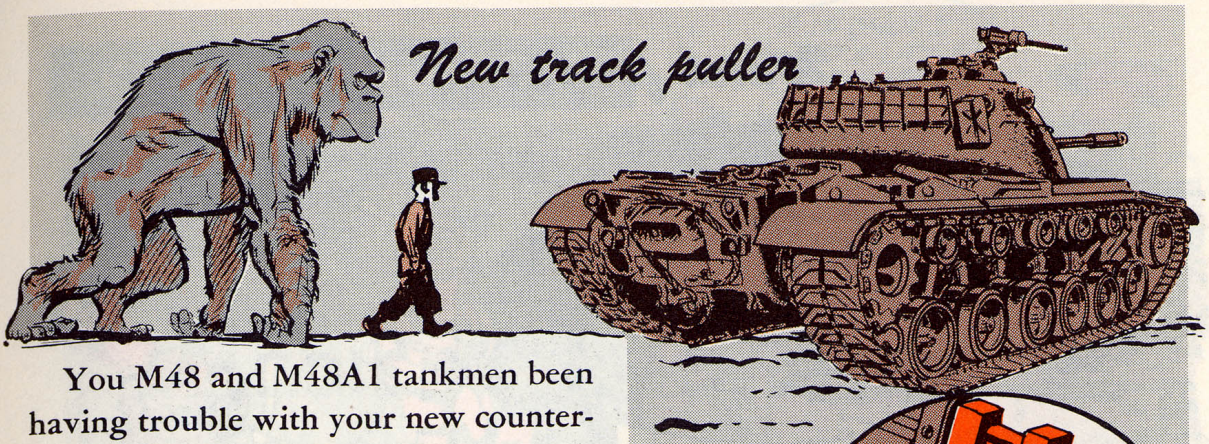
It then was thought that for an interim fix brass plug FSN 4730-011-5711 would do the trick, but, brass and magnesium don't take kindly to each other . . . no soap.

Soooo, the one you'll now use is Plug, Pipe, Sq Hd, Steel, ⅜ NPT, FSN 4730-221-2138 (MS-20193-3S).



## New track puller



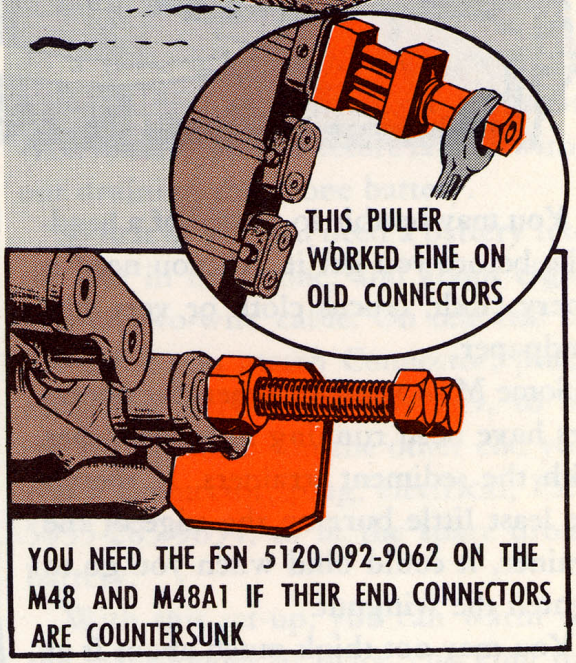
You M48 and M48A1 tankmen been having trouble with your new countersunk end connectors?

The FSN 5180-707-7643 track connector and track puller worked fine on the old connectors but it won't fit on the countersunk type.

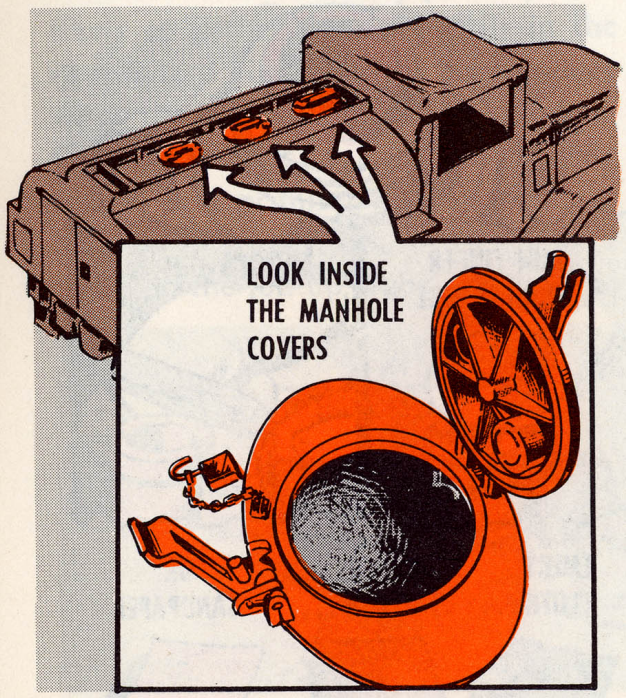
What you need is puller, track link and connector assembly FSN 5120-092-9062 which is authorized OEM on the M60 and M48A2 tanks.

The word now is that its been authorized as OEM for the M48 and M48A1 tanks.

You can use the one in Special Tool Set B until you get one of your own.




## Inside job

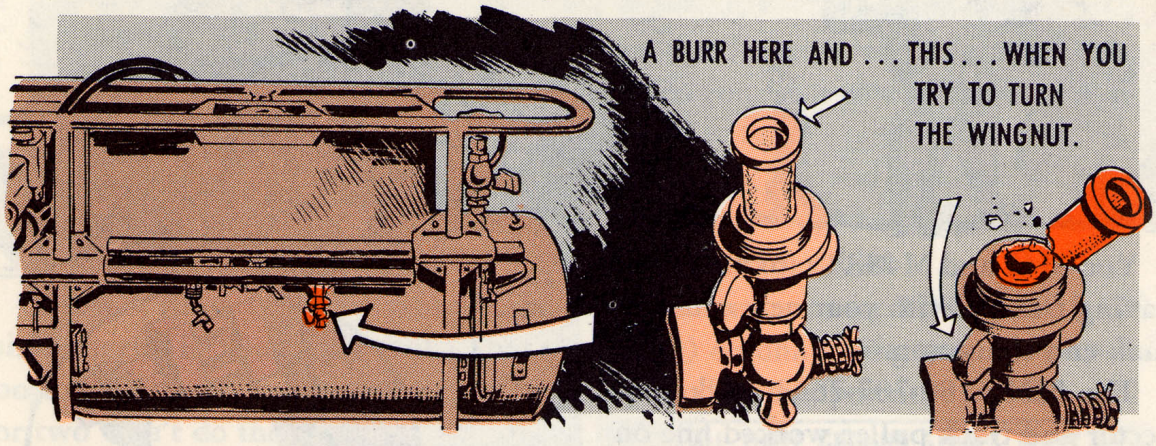



That gas-tanker truck or trailer that supplies fuel to keep your outfit on the move has to be kept clean—inside. If 'taint, it's apt to leave a trail of fouled-up engine fuel systems everywhere it goes.

So, when you're operating a gas tanker, lay an eye now and then on the inside of that tanker's manhole covers.

If the tank's rusted or gooked up inside, take it to your Ordnance support (your authority is para 2, TM 9-8022, Dec 54). They'll check to see if it needs recoating like it says in TB Ord 1031 (10 Jan 62), or if just a steam cleaning will put it back in the pink.

# *Watch for burrs*



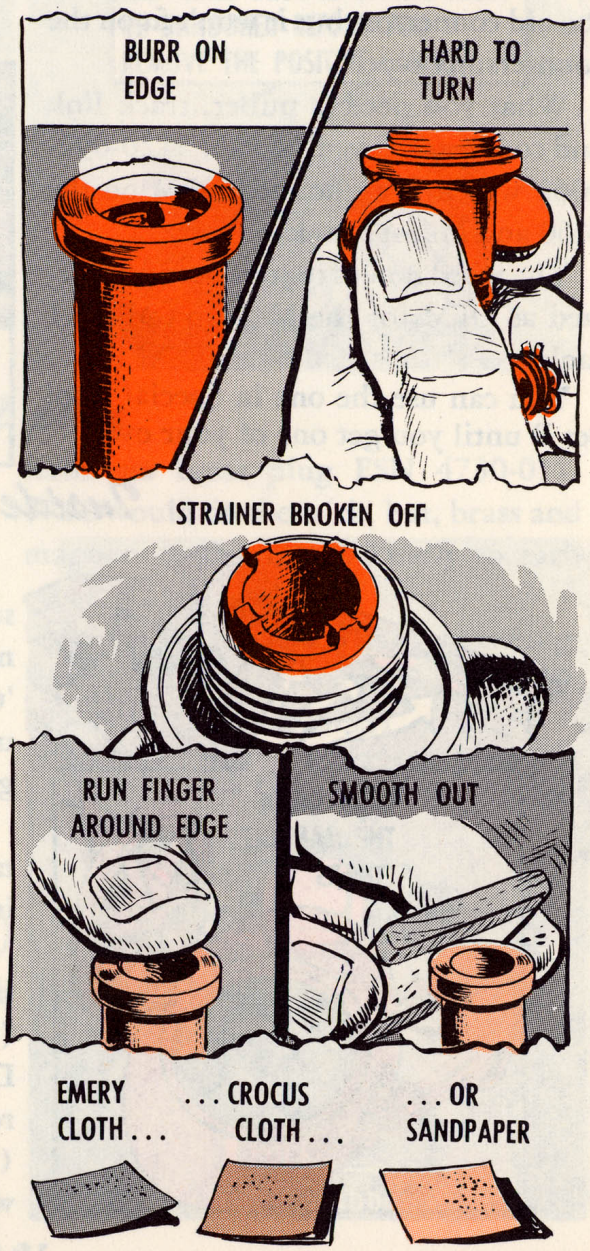

You may be able to get rid of a headache before you get it. All you need is emery cloth, crocus cloth or very fine sandpaper.

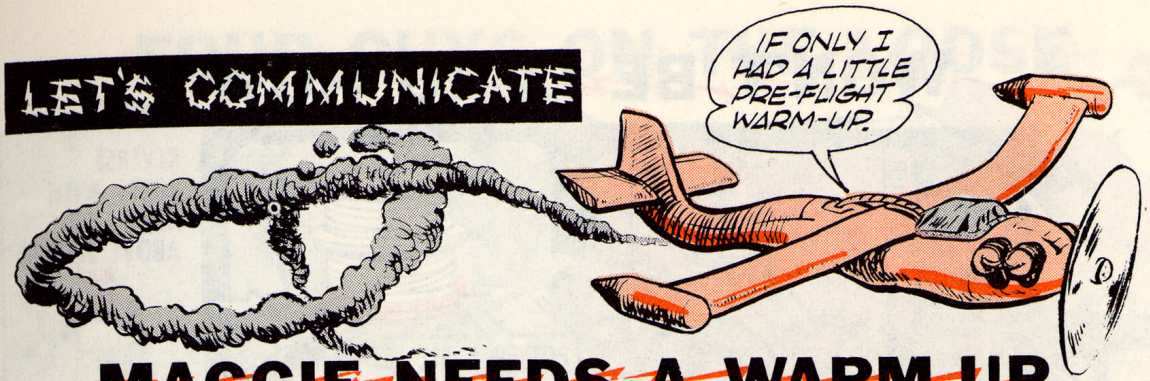
Some M3A3 smoke generator operators have been running into headaches with the sediment strainers. If there's the least little burr on the edge of the strainer, it could bind when you go to tighten the wingnut.

You may not think much about it at the time, but the next time you want to check the strainer you'll find you're in trouble. You try to turn the wingnut on the fuel strainer and it's hard to turn.

Then you check your TM 3-1040-202-12 to make sure you're going according to directions. That means you're turning the wingnut counterclockwise. Well, maybe a little more elbow grease will do it. Sure enough, it will turn but when you finally get it loose, you find the strainer is broken off.

So, to keep from getting in a bind because of a bind, run your fingers around the edge of the strainer. If you find some rough places, smooth them out with emery cloth, crocus cloth or very fine sandpaper.






# MAGGIE NEEDS A WARM-UP

With a swoosh and a snort your AN/USD-1 surveillance drone goes zooming off . . . into the wild blue? Yonder?

If she's carrying Transponder Set AN/DPN-62 she could be heading for real trouble if you failed to give that set the attention it needs.

Like warming up the magnetron in the RT-540/DPN-62 before launch. Just how long you warm her up depends on how cold it is, of course. In real cold weather you may need up to 10 minutes. In very hot weather, as little as a minute may do the job.

Without this warm-up period you're likely to get a frequency drift in the transmitted signal of the transponder when the beacon is turned on. And before you know it your drone is clipping hedges and pruning trees—which is a little outside her MOS.

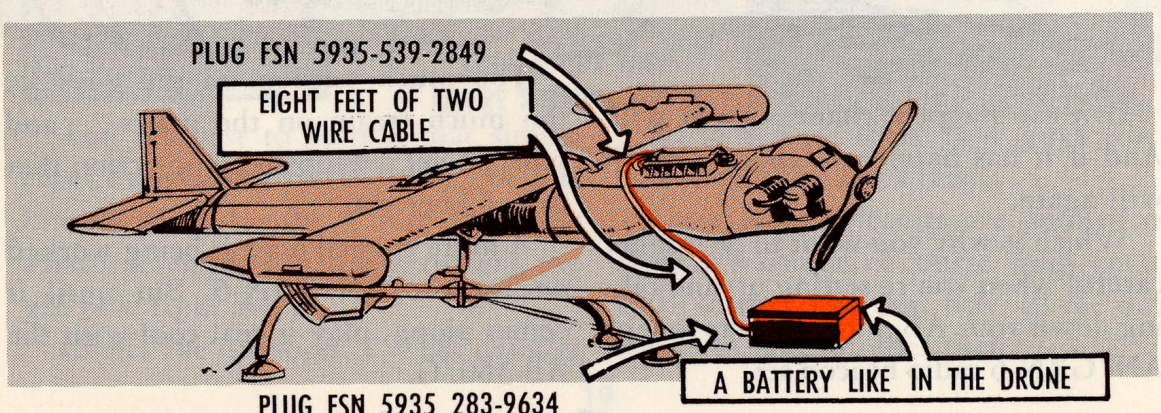
To do the job up right, you need to do a little improvising. You want to rig up a deal so you can warm up the receiver-transmitter before launch without draining the drone battery.

So first of all, you need a battery like the one in the drone, and about eight feet of two-wire cable. On one end of the cable you attach Connector, plug, electrical, FSN 5935-539-2849, to fit the transponder. On the other end you slip a Connector, plug, electrical, FSN 5935-283-9634, to fit the spare drone battery.

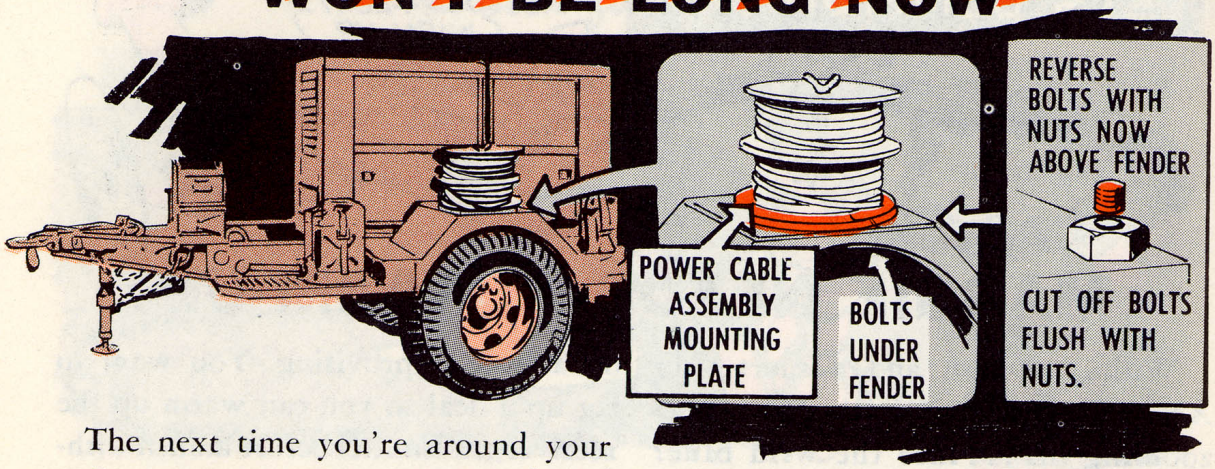
With this set-up, you can warm up the transponder in place, checking the frequency stability at the tracking radar. Just be sure you don't let the transponder sit and cook with the power on. This will cause it to heat up and damage the insides.

Just before launch, connect the transponder to the drone battery.

No more hedge-hopping.



# WON'T BE LONG NOW



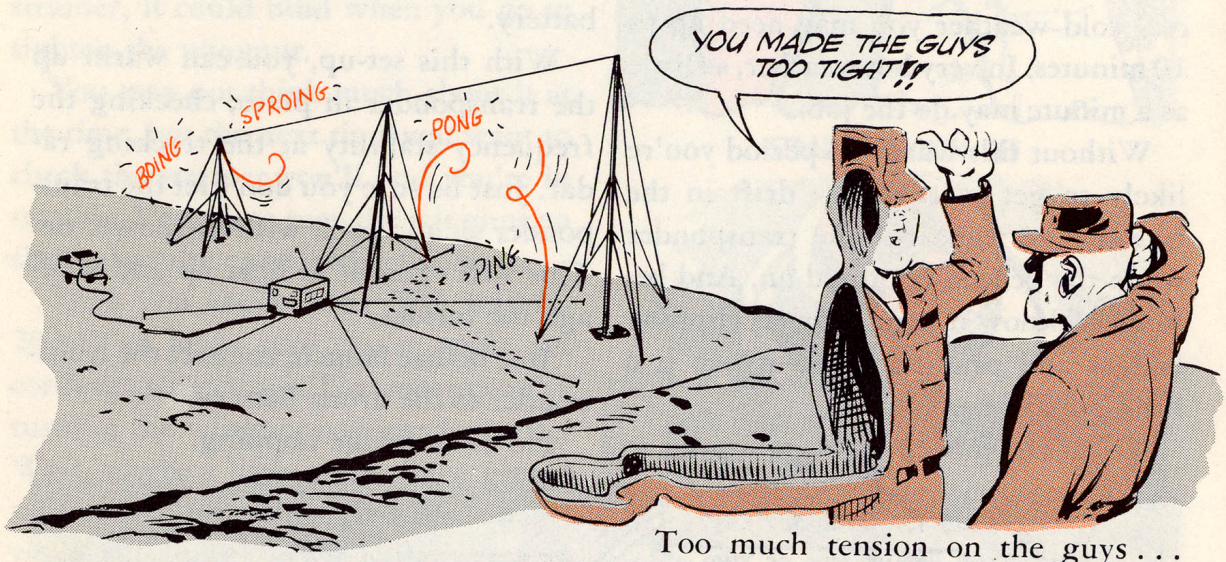

The next time you're around your trailer-mounted generator set PU/407/M, take a peek under the left fender.

Could be the machine bolts that hold the power cable assembly mounting plate to the fender are too long. If they are, they'll gouge the tires . . . especially when the trailer crosses rough ground.

If there's any doubt about the clearance, remove the bolts and reverse 'em so that the nuts go above the fender. After you tighten the nuts, cut off the bolts flush with the nuts.

Then file the bolts down nice and smooth to get rid of any burrs.

# DON'T GET HALF-MASTED



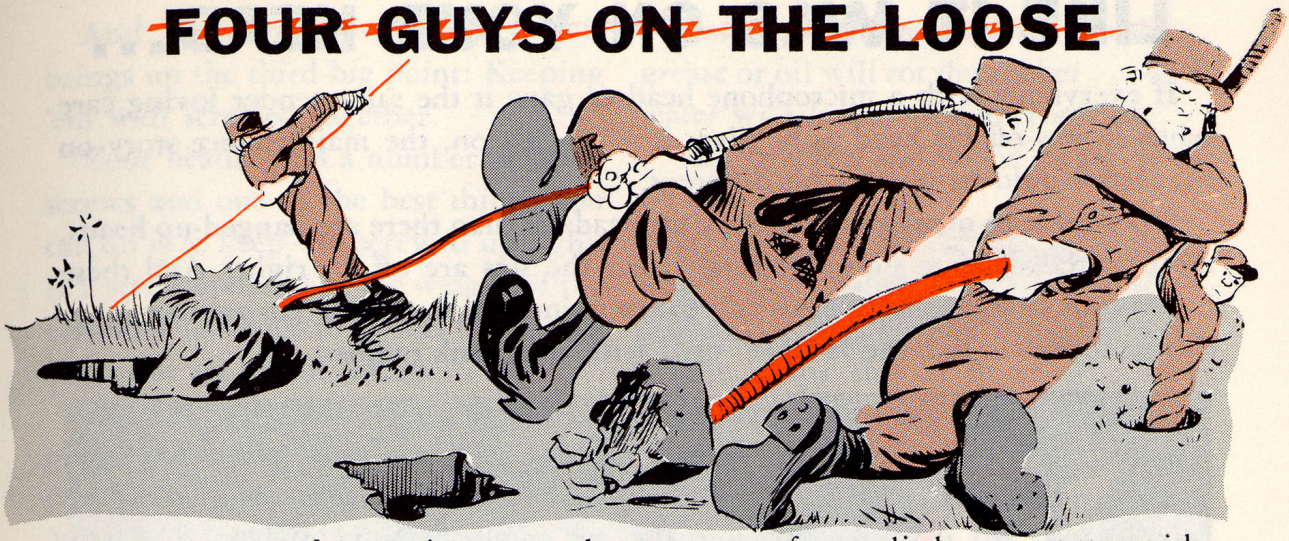

If it can happen, chances are it will. And if it has happened, chances are it will again.

Which is why you want to be mighty careful when you're setting up and taking down your AB-360/G masts for the AN/GRN-6 radio beacon set.

Too much tension on the guys . . . too much strain on the masts . . . and you can get a whipsnapping action that can clobber you.

A more rugged mast is being worked on for the AN/GRN-6. But until it comes along, play it real cool with the AB-360/G.

# FOUR GUYS ON THE LOOSE



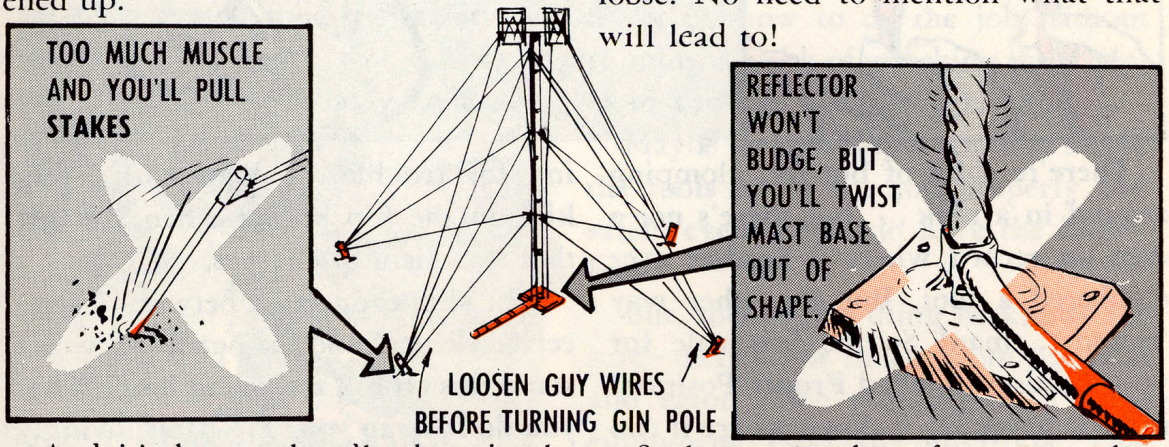
Some guys need loosening up at the right time.

Heh, heh.

Like when the time comes to shift direction of the antenna assembly of your AN/TRC-24.

Those big reflectors stay pointed in the right direction because the four reflector guy wires keep 'em that way.

So any time a crew gets the word to turn their reflectors one way or the other, those four guys have to be loosened up.




And it's best to handle that simple chore even before you stick the gin pole into the gin pole tube. 'Cause it's almost a natural temptation to start turning the gin pole right away.

Comes the question: "What damage can come from a little turn or two without loosening the four guys?"

Comes the answer: "Plenty!"

For one thing, those reflector guy wires will hold firm. So that even if the gin pole should actually start turning, the reflector won't budge. That means you'll actually be twisting the mast base out of shape. Bad.

If a man applies even more muscle to the improper turning operation, he just might start pulling some ground stakes loose. No need to mention what that will lead to!

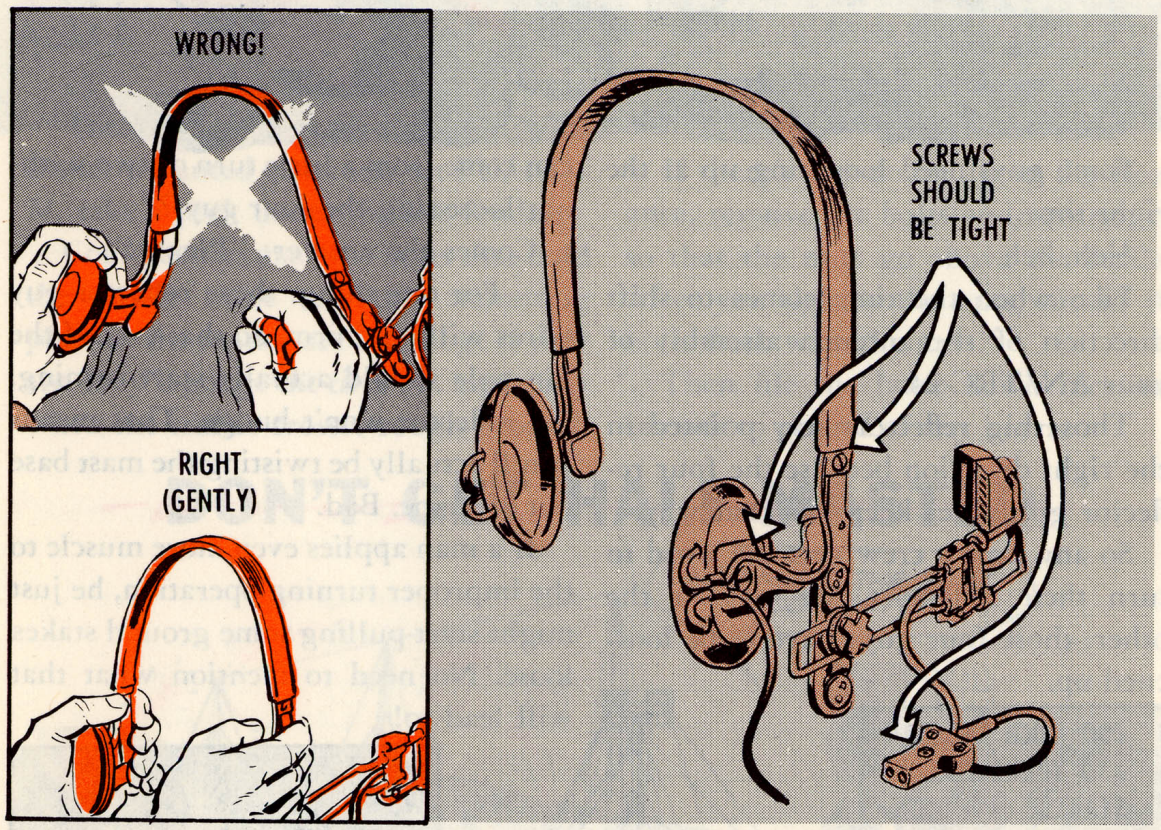
So loosen up those four guys when you're heading for a turn.

Once your reflectors are pointed on their new course, of course, snug 'em up tight so they stay that way 'til the time comes to take another turn.

# LIKE IT WAS ON YOUR HEAD . . .

If everybody with a microphone headset gave it the same tender loving care when it was off his head as he gives it when it's on, the maintenance story on headsets would be quite a bit different.

Since there're many more banged-up headsets than there are banged-up heads, most of the damage must be done when the sets are off . . . right? And these headsets have been taking a beating to the point where some of 'em are in mighty short supply . . . like the H-63/U used with your tank radios.




There're a lot of big feet clomping around in a tank . . . but there's not a case on record where a headset ever clobbered a foot. But the other way 'round . . . man! So the first rule for your headset is called Proper Positioning—or never lay it down where it can get stomped on, set down on or stacked on. It comes out the loser every time.

The second basic rule covers Spreading the Earphones. It's an awful temptation at times to grab 'em by the ears and pull 'em apart. But this is just asking for trouble . . . along with a big kick in the hip pocket when you get that statement of charges.

The slim connection between the receiver element and the headband won't stand this type of treatment long. What you do is wrap your big paws lovingly around both the earphones and the headband and ease the phones apart gently.

And you should have to spread 'em little because you want a nice tight fit. But, then, not too tight . . . .

And speaking of tightness, this brings up the third big point: Keeping 'em well screwed together.

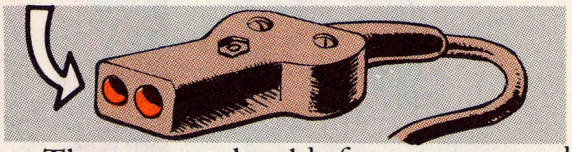
Your headset has a number of small screws and one of the best things you can do is to keep 'em screwed up tight. If a screw comes out, the weight of the earphone can pull the wires loose, putting your set out of action.

TM 11-5965-249-15P (Nov 61) gives you Screw, machine, FSN 5305-639-4737, and Washer, lock, FSN 5310-209-0787, to hold the earphone in place.

You'll want to check the screws at least daily so they won't slip out on you.

Naturally, you want to keep the headband and earphones clean, using only a clean, dry, lint-proof cloth. Gasoline, grease or oil will rot the rubber . . . and water will damage the microphone.

The contacts should be clean, with no dirt in the holes.



The snaps should fit snug . . . and have no dirt or stuff under the strip.

If your mike boom doesn't snap firmly into place, call for a repairman. Do the same thing if the seal around the microphone cover is broken.

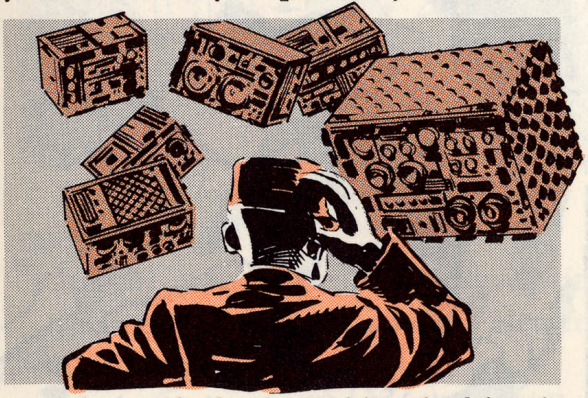
Just one little thing more. All wiring should be free of cracks or breaks. Sound out for the repairman if your harness isn't up to snuff.

## CHECK THE MAC

So your radio set conks out. Or, an electronic component of your missile system flips.

It can happen.

Being a pretty good organizational repairman you figure you can fix'er yourself. And, you probably could . . . .



But you find yourself blocked by the Maintenance Allocation Chart published in your equipment's TM. It says this is a job for somebody higher up.

So you mutter something like "what does the guy who wrote the MAC know about it?"

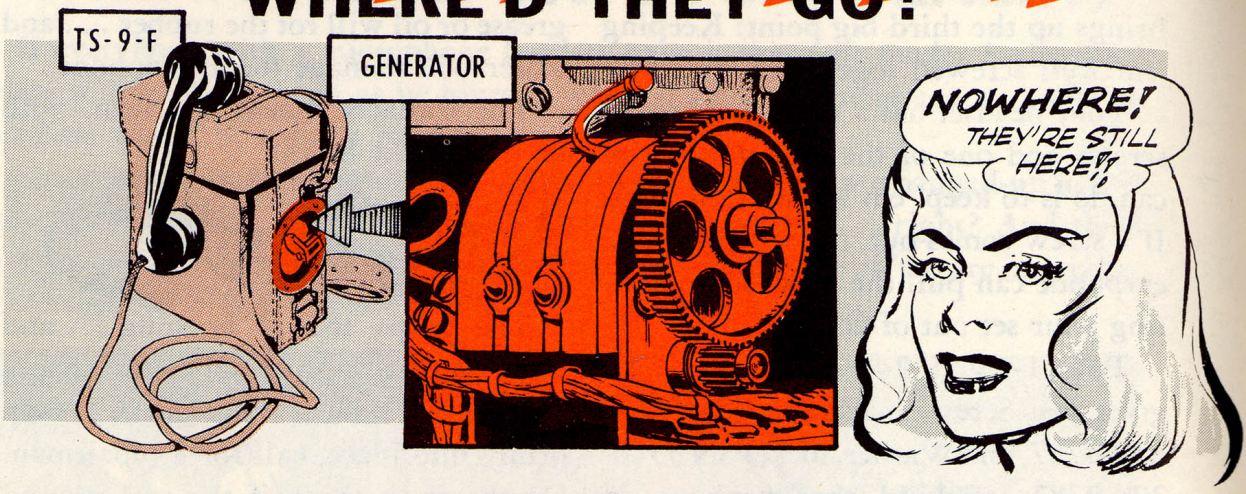
Well, maybe he knows that most guys at your echelon level don't have the know-how to do the job without running the risk of wrecking the equipment (and/or themselves).

Maybe he knows that you don't have the tools to do the job properly and safely even if you do have the know-how.

But, there's one thing he knows for sure—there's not much room for trial and error when working with some equipment, especially electronic. One wrong turn and . . . phffft . . . up goes your equipment.

It boils down to this. . . the good repairman knows when he doesn't know . . . and he doesn't hesitate to say: "I'll buy that, MAC ".

# WHERE'D THEY GO?




Been puzzled by Change 1 to TM 11-5805-200-12P for telephone EE-8 series?

It knocked the TS-9-F handset and Generator GN-38; GN-38-A, B from the list of "items making up an operable equipment."

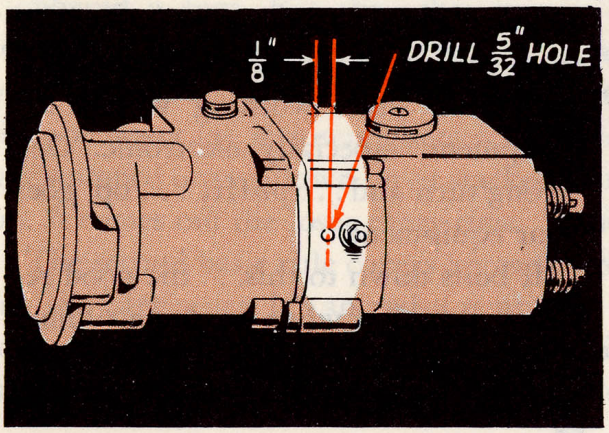
The two items were deleted because they're permanently attached to the telephone (or are supposed to be, at least). So, they shouldn't have been on the list to start with.

# A LITTLE HOLE'LL DO IT

The magneto in your generator set PU/286 ( )/G may or not have a drain hole in it.

If it hasn't, you could be in for some mighty nasty trouble caused by water condensing inside . . . and then refusing to disappear on its own accord.

To give yourself a fighting chance with this trouble, take off the magneto cover and drill a $\frac{5}{32}$-in hole in the magneto like so:

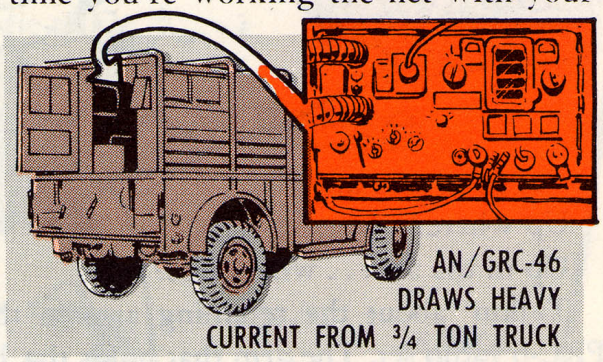


# EASY ON THE DRAW

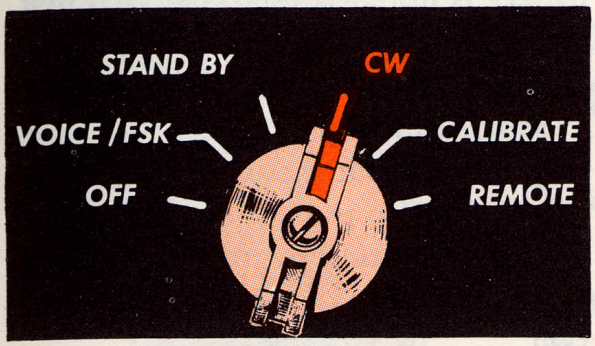
Free and easy on the draw.

Might bear that slogan in mind any time you're working the net with your AN/GRC-46.

'Cause your Angry 46 draws current in big batches from the ¾-ton truck's electrical system. Things get hot and heavy enough sometimes to build up a thermal overload in the T-195/GRC-19 transmitter . . . especially in warm or hot weather.




It's mostly the result of sendin' out voice and teletype traffic at the same time. Can't be helped sometimes, of course. Business is business.




But let's say your transmitter is putting out only for the teletype. No voice for the moment. You can ease the draw on the system by flicking the SERVICE SELECTOR switch to the CW position.

And by easin' the draw—you also keep the transmitter temperature down where it belongs.

# ANTENNA PROTECTION

The antenna for your AN/TRC-47 radio set missing something? Like paint, maybe? Could be.

If your antenna is not protected with OD paint or gray chrome finish, try this:

Push the telescoping antenna element all the way in and assemble the antenna for installation.

Mask all the electrical and grounding connections . . . real good.

Now spray all bare aluminum with a clear, colorless lacquer.

What you need is Lacquer, acrylic resin, full gloss, five-minute drying time, colorless: 16-oz pressurized can, Krylon 1303 or equal, FSN 8010-515-2487 (Eng). Whew!

# PUT UP JOB

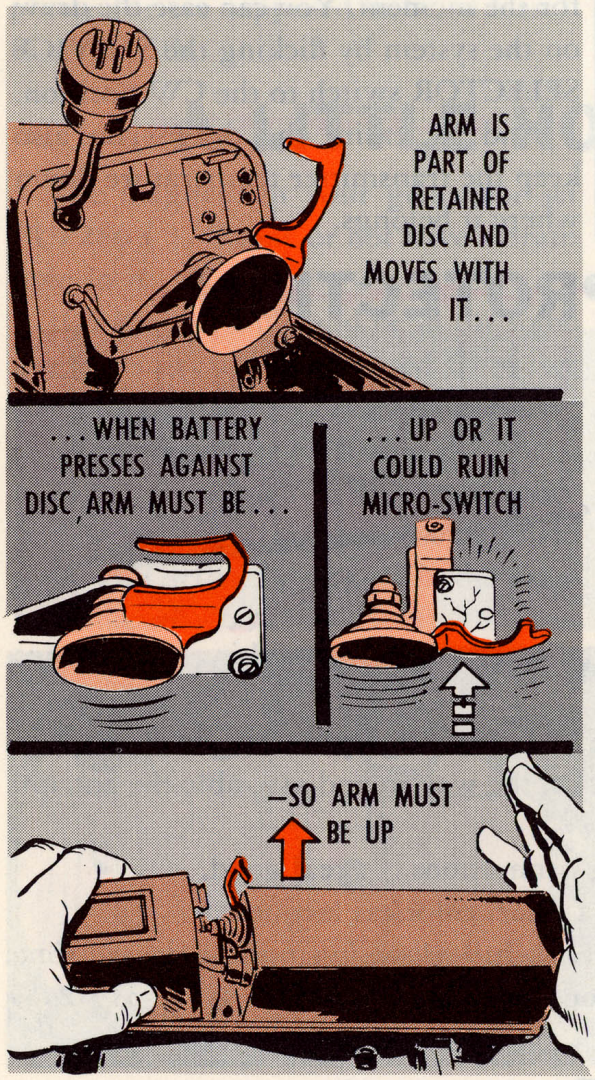
Put your arm up!

Up where?

Up in the air . . . where else?

Talkin' about the retaining arm in the battery compartment of your AN/PRC-6 radio set. The arm that holds the battery plug snug once the BA-270/U battery is popped into position.

It sort of flaps around loose until the battery is installed. And too often that arm is pushed all the way up and over—until it sticks out close to the PUSH-TO-TALK micro-switch.




So what happens is this:

When you put in a battery, you naturally have to push the socket end of the battery against the retainer disc before you can drop the battery into position.

And as you shove back on the retainer disc—the retaining arm also is carried back since it's part of the same assembly.

Comes the trouble.

If the arm is leaning over backward during this installing process, it will be pushed into the micro-switch. Chances are good it will crack the plastic—and that means no PUSH-TO-TALK action.

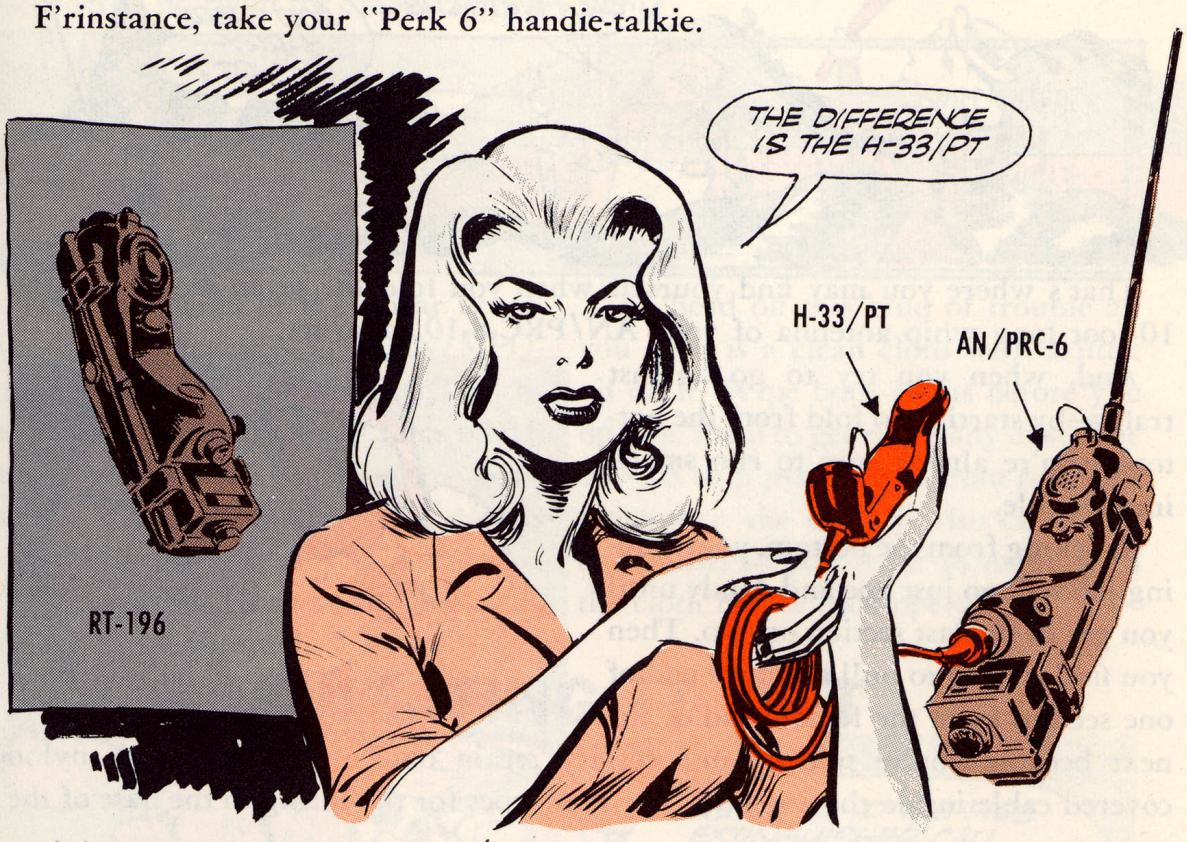
All because the arm was sticking out—when she should have been sticking up.

So that's it. Any time you're putting a battery into your PRC-6, take at least one second to make sure the retaining arm is pointing up before pushing against the retaining disc.

That'll spare the switch and keep your "6" in action.

# PERK UP

With or without.
It makes a difference.
F'rinstance, take your "Perk 6" handie-talkie.



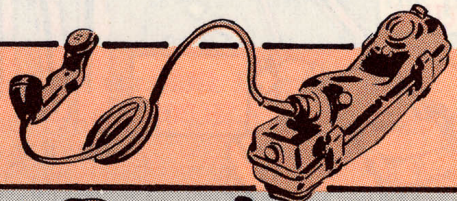

If she's equipped with an H-33/PT handset, then the whole assembly is known as an AN/PRC-6 radio set.

But if you're headin' out with an RT-196( )/PRC-6 Receiver-transmitter by itself, then, strictly speaking, you don't have a PRC-6. It's just an RT-196. Period.

Either way, of course, you can go on the air. Having the handset simply makes things a bit easier.

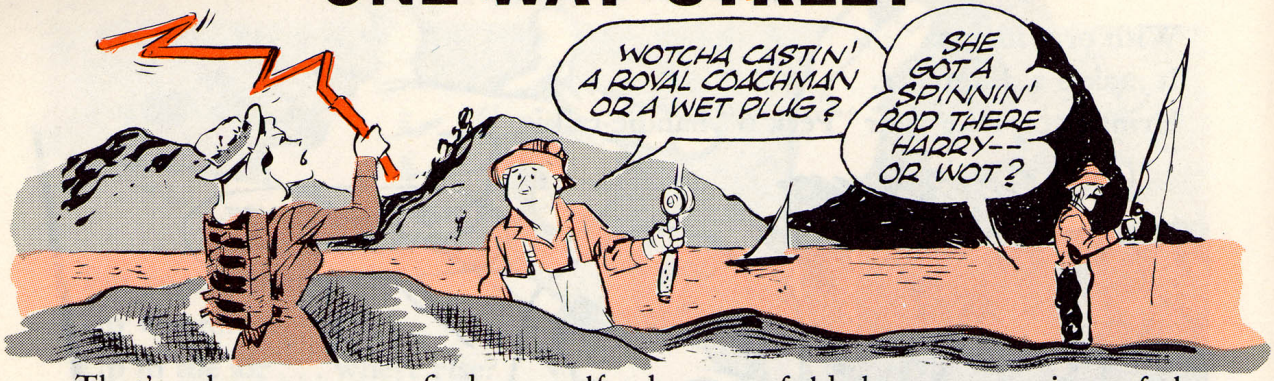
Confusion could set in, though, comes time to pull inventory or during an equipment turn-in. Check your property book and check your hand receipts. That way you're sure of what you have and what you're getting.

**Look at 'em this way:**

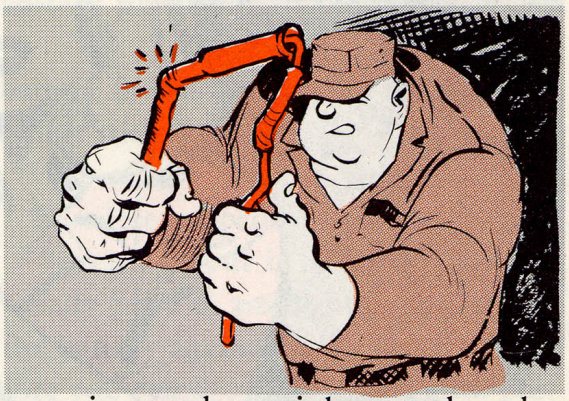
| | |
|---|---|
| AN/PRC-6 Radio Set (RT-196( )/PRC-6 with H-33/PT Handset)<br>FSN 5820-194-9928 |  |
| RT-196( )/PRC-6 Receiver-Transmitter<br>FSN 5820-194-9929 | |

You'll note the FSN's are as similar as possible. Only the last digits are different.

# ONE-WAY STREET




That's where you may find yourself when you fold the seven sections of the 10-foot long whip antenna of your AN/PRC-8-10 radio set.

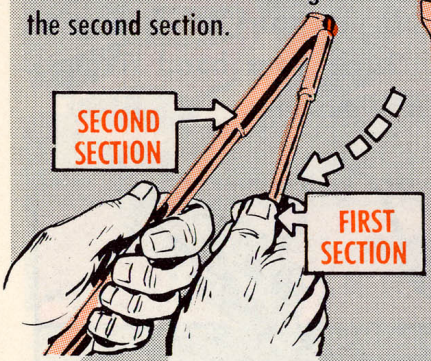


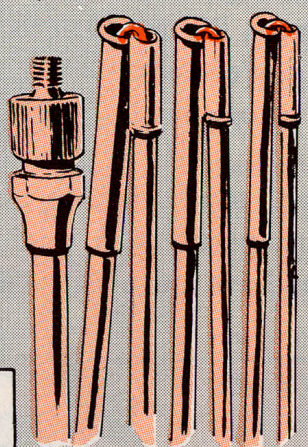
And, when you try to go against traffic—by starting to fold from the bottom—you're almost sure to run smack into trouble.

Working from the bottom, your folding job will go just fine and dandy until you get to the last section or two. Then you find it hard to pull the male end of one section from the female end of the next because you're putting unnecessary strain on the stainless steel, nylon covered cable inside the antenna. The same goes for the spring in the base of the antenna.

So, for a sure, quick folding job, try this:

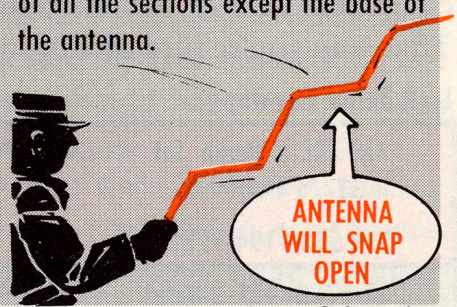
Starting from the **top** of the antenna, pull the first section out just far enough to clear the second one. Fold it back against the second section.



Keep it up until all sections are folded.

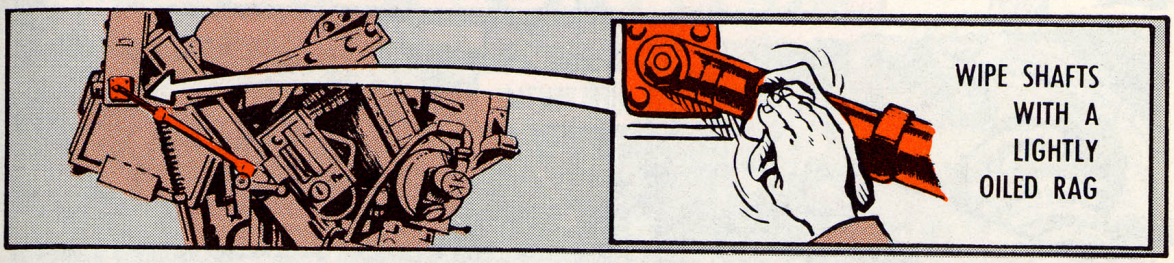
And, keep the words of the TM handy when it comes time to set up the antenna again. Grab the antenna by the base and throw it out like a fisherman casting his line. As you throw, let go of all the sections except the base of the antenna.




With the help of a little whip action—and some practice—you should be able to straighten out the whole antenna in one throw. But if one or two sections don't fall into place, it only takes a second to put them there by whipping the antenna again or by pulling the final sections out by hand.

# NO MORE SHAFT PITTING

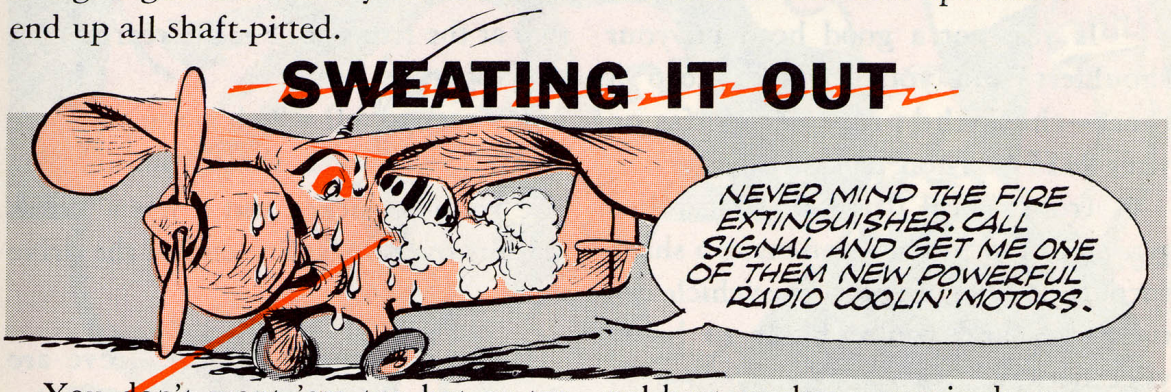
When you've got something slipping smoothly and tightly into something else, there's no room for excess baggage, right?




Take the shafts of the linear actuators on the reflector of your AN/MPQ-4 or 4A radar set, for example. They fit those cylinders real comfy like, which means there's no room for dust or gook to take a free ride. When the dust is pulled into the cylinders by the shafts, it digs right in . . . and your actuators end up all shaft-pitted.

To head off this kind of trouble all you need is a clean cloth with a little oil on it. Wipe both shafts before you operate them to get rid of any dust. The oil will help protect 'em from rust. But remember, the oil will also catch and hold dust, so you want to make with the cloth before each operation.

# SWEATING IT OUT




You don't want 'em too hot or too cold!

Your AN/ARC-55 or -27 radio set can't put out if she's cold—and at the same time she won't do you much good if she gets overheated.

And it's that overheating that has to be watched. Which is why there're two motors inside the receiver-transmitter chassis that do nothing but move air around to keep the temperature just right.

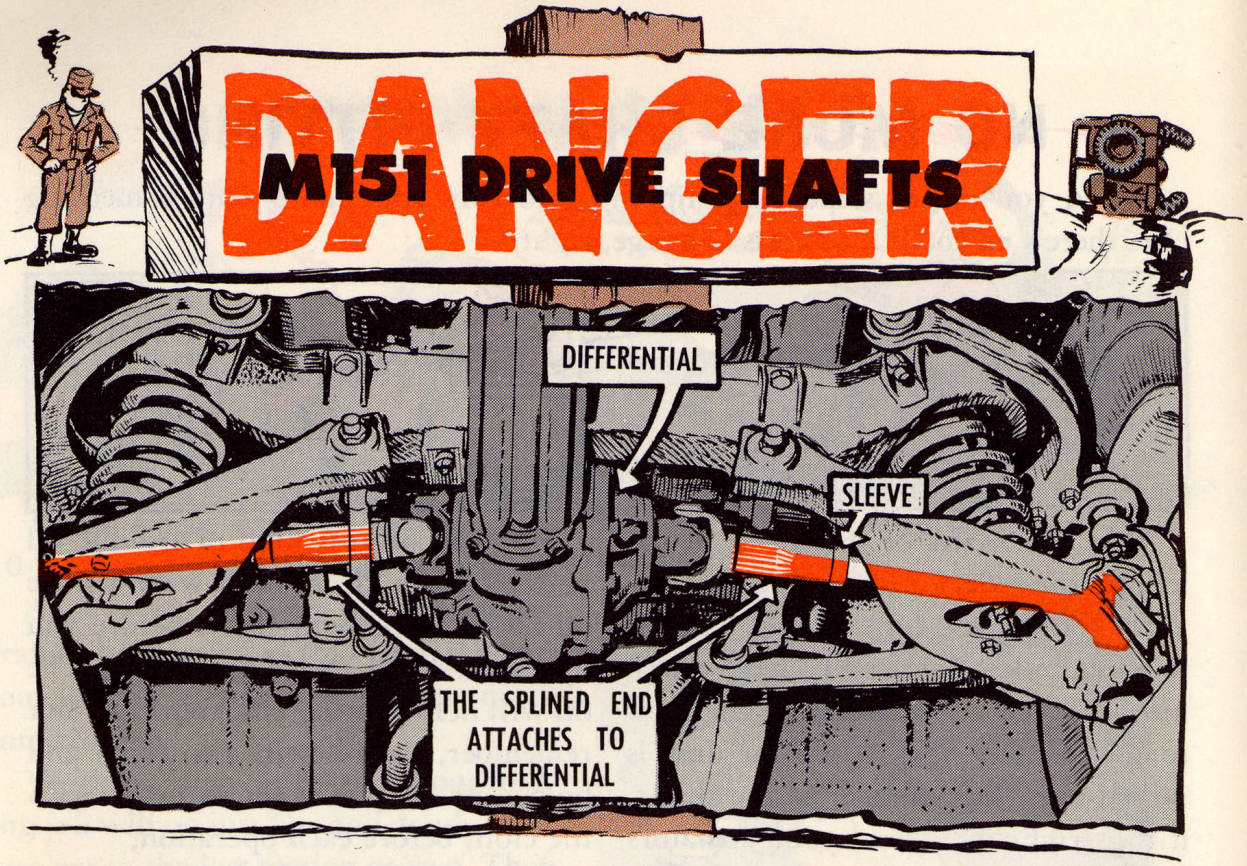
Seems the heat builds up hotter'n it should in the rear of the chassis—near the motor that cuts in when the internal heat reaches a certain degree.

Things get so hot, 'smatter of fact, that a new, stronger, heavier-duty motor is the only way to cool things off.

To wipe away the sweat, then, the Signal Corps is plucking out the present motor and replacing it with a more powerful version. It goes under the name, rank and serial number of:

> Motor, Direct Current, 27.5 volts DC nominal, Heinz Mueller Co No. A25827, FSN 6105-841-6640 (Sig).

Also part of the deal is Brush Set, electrical contact, Heinz Mueller Co No. 25864, FSN 5977-842-9075 (Sig).




If you got a good head on your shoulders—and you want to keep it there—check the propeller shafts on your M151 ¼-ton truck.

A front wheel drive shaft installed wrong can lock when you make a sharp turn. If you're going fast the vehicle can turn over and you're likely to break your neck.

For free neck insurance, check your two front wheel drive shafts and yoke assemblies.

The drive shaft has a spline on one end which fits into the yoke. If this yoke is attached to the differential, you got no worries.

But if the cross (spider) at the yoke end attaches to the flange which drives the wheel hub, yell loud and clear for your company mechanic and he will take it from there.

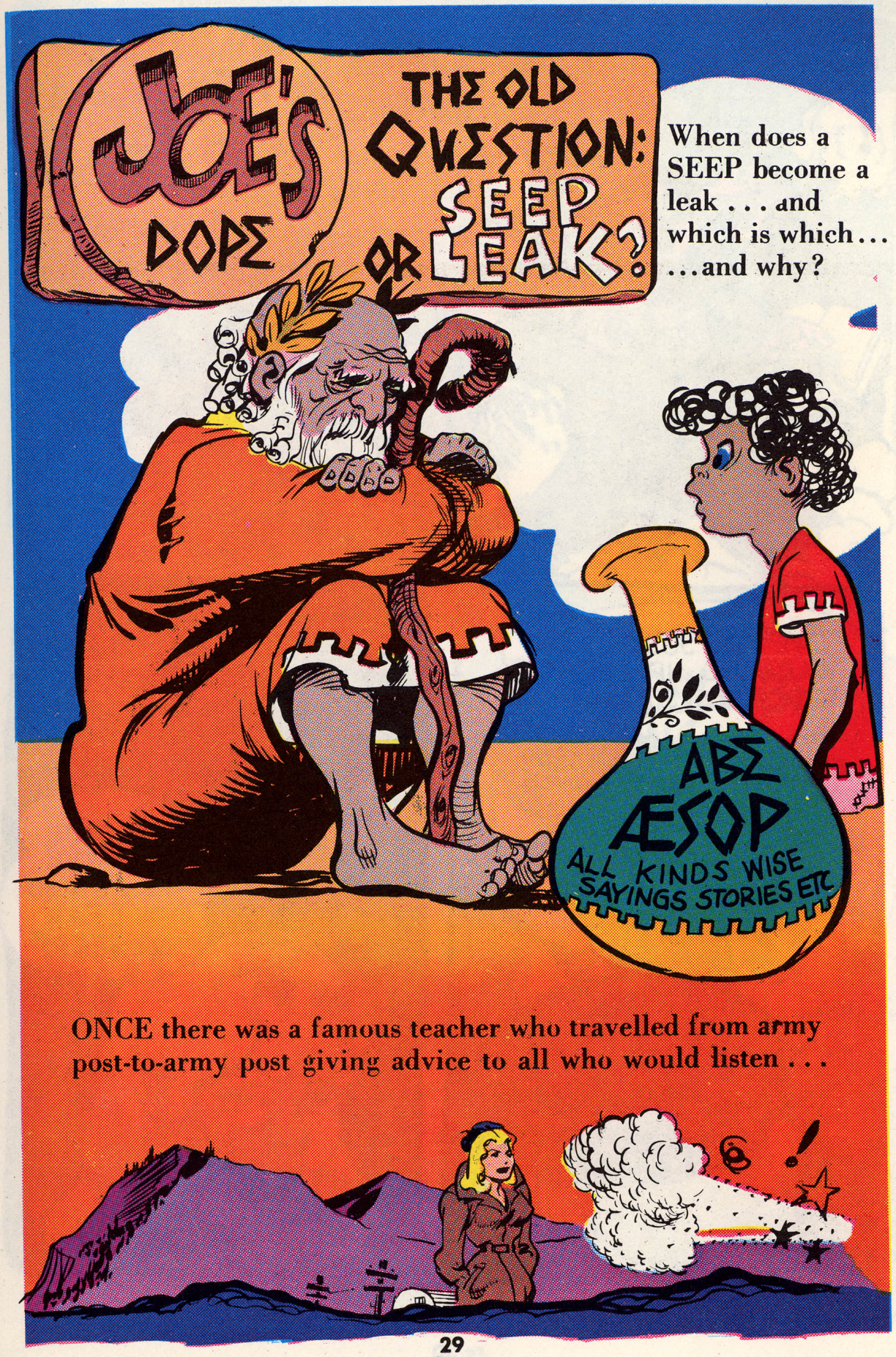
(This goes for the two propeller drive shafts at the rear as well as the two at the front—but at the rear it's not so dangerous.)

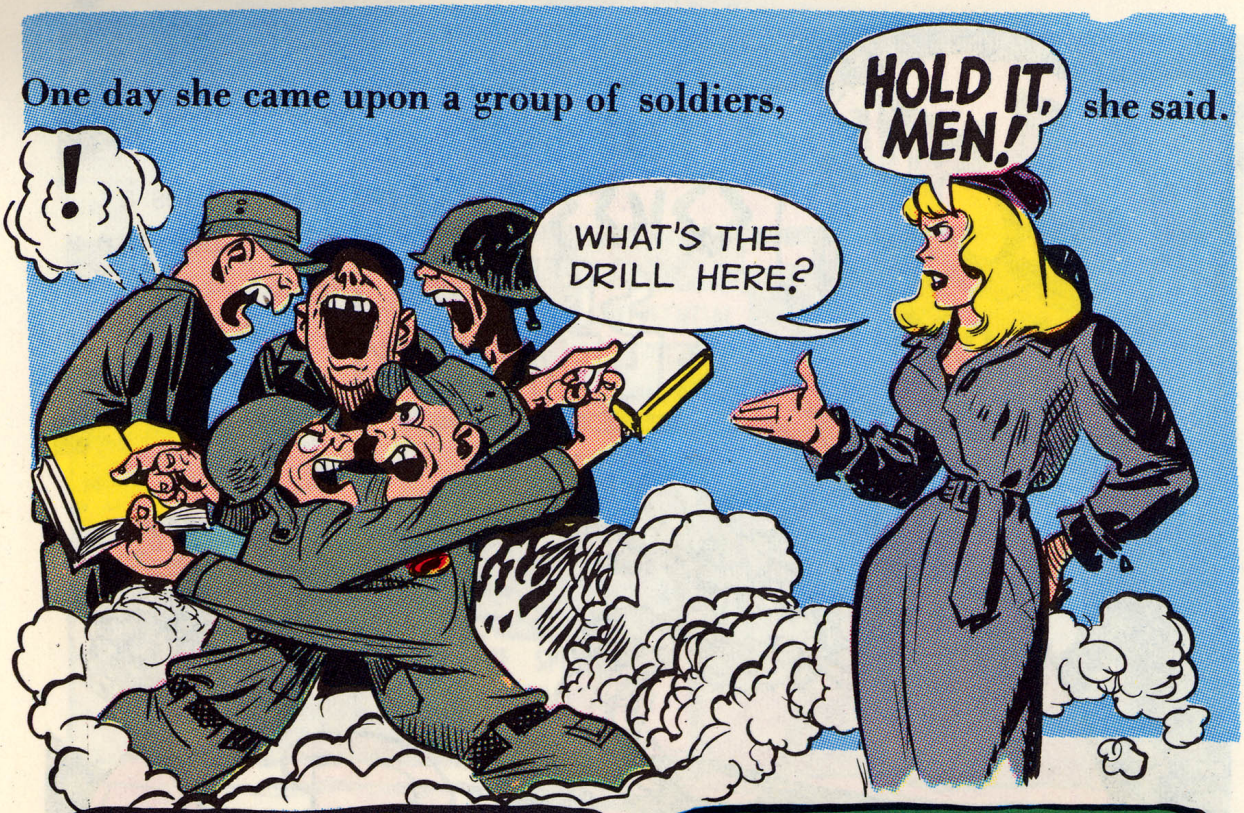
It's easy to tell which is the yoke end of the yoke-drive shaft combination. The yoke is thicker and it has a sleeve that fits over the spline end of the drive shaft.

If the thick part and the sleeve are close to the differential you are all right, but if they are close to the wheel, the thing is assembled wrong—so start yelling.

It's your neck—so check it out . . . today.

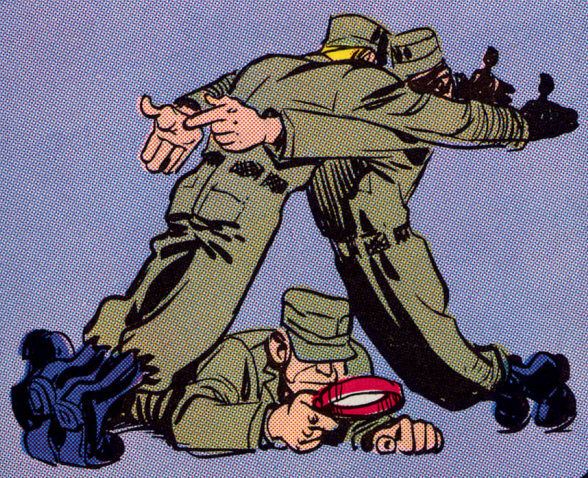
If the shaft's wrong, get your company mechanic to put it together right like it shows in fig 102, page 159, of TM 9-2320-218-20 (Jul 60). Also remind him to torque the U-bolt nuts evenly, in steps, to 15-20 pounds-feet because a U-bolt that gets torqued unevenly won't last long.


JOE'S DOPE
THE OLD QUESTION: SEEP OR LEAK?
When does a SEEP become a leak . . . and which is which . . . . . and why?
ABE ÆSOP
ALL KINDS WISE SAYINGS STORIES ETC
ONCE there was a famous teacher who travelled from army post-to-army post giving advice to all who would listen . . .

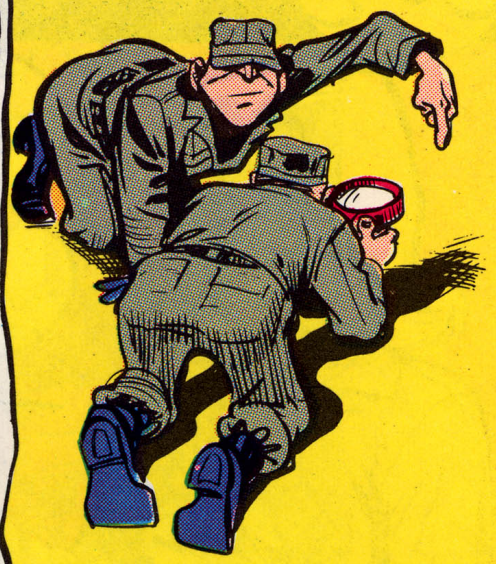


By this, they meant that they were preparing all sorts of arguments and "whereas"—to use in case they had to face embarrassing questions on the morrow.

Well, this threw them into another argument . . . for, they had always taken this business of leak for granted . . . indeed they discovered each man had his *own* way to determine a *seep* from a *leak*.



But mostly they said they watched for stains of lubricating fluid and . . .



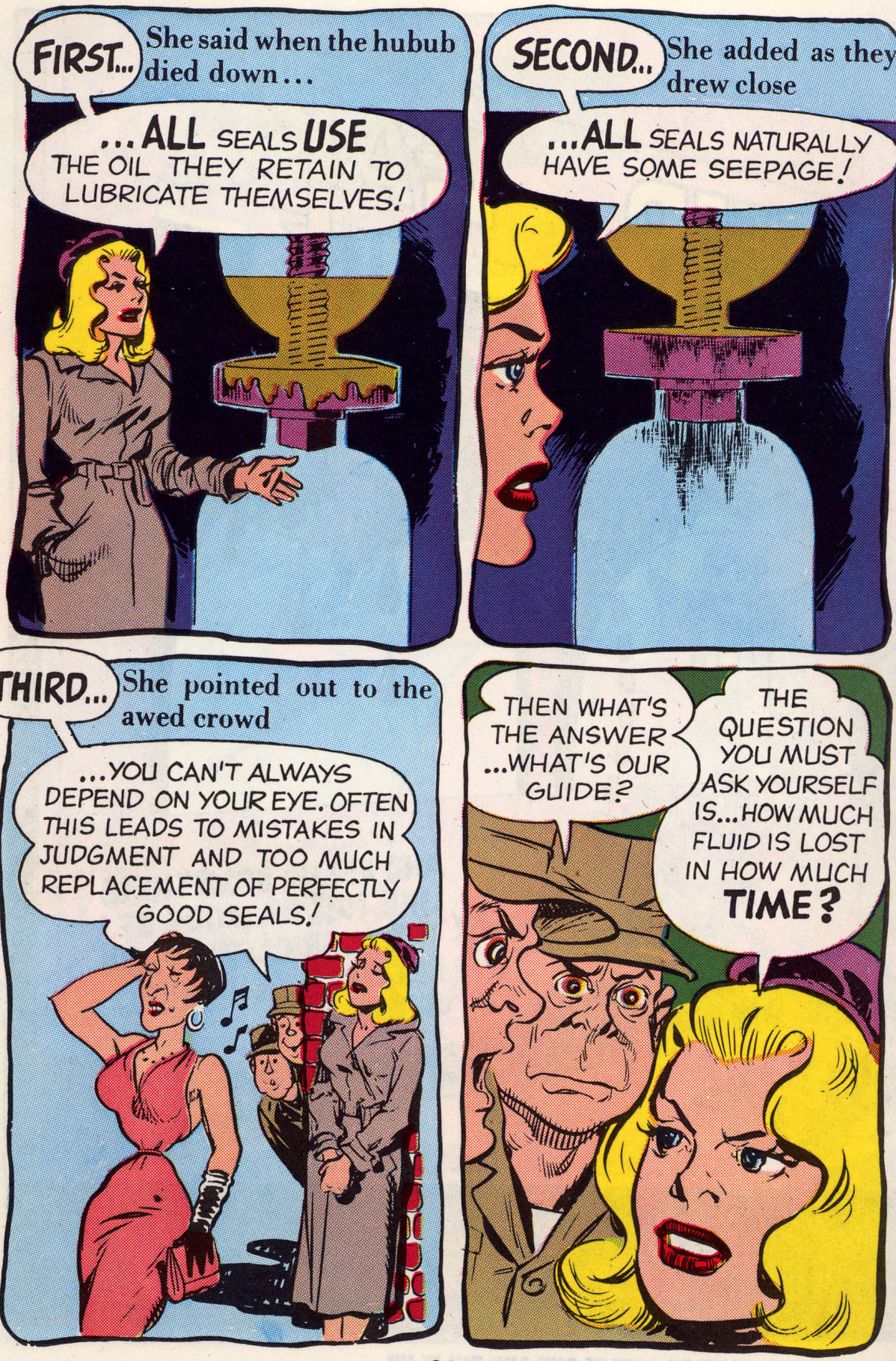
by rule-of-thumb they would decide it's a leak and . . .

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BUL

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

QUIPMENT ...Take care of it

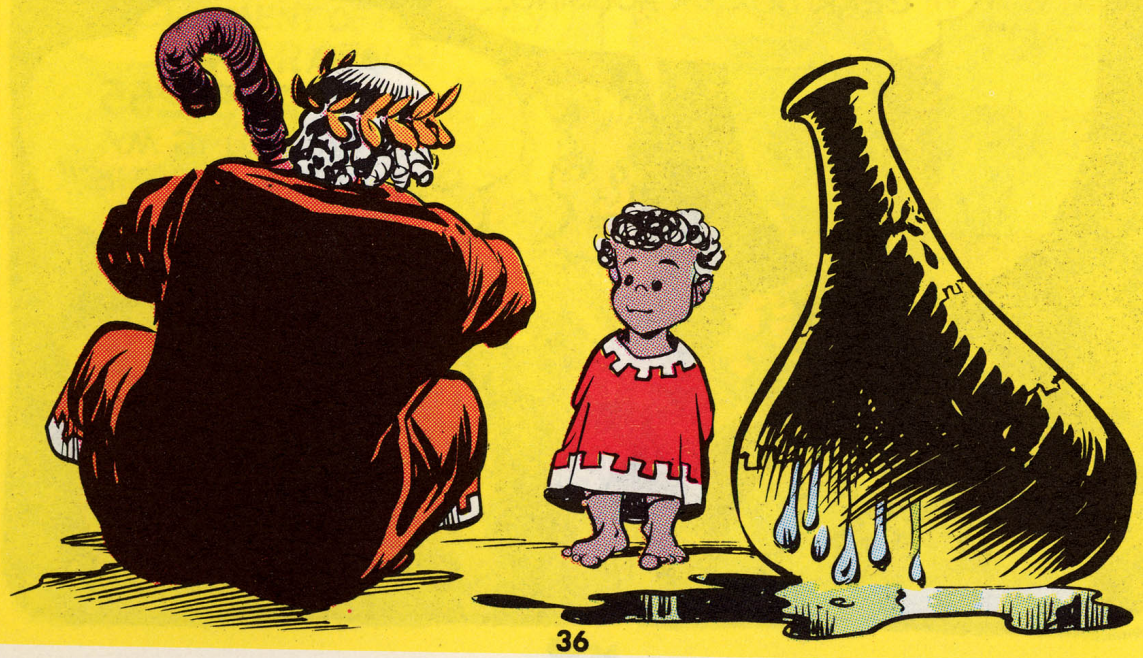
LLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

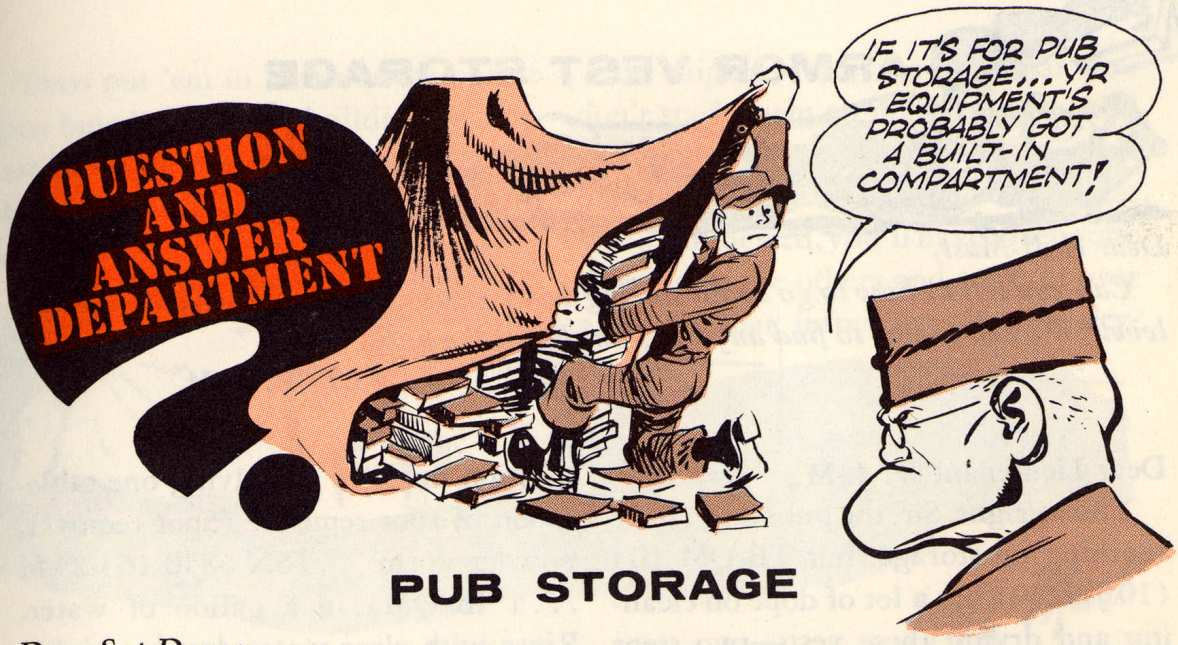

FIRST...
She said when the hubub died down...
...ALL SEALS USE THE OIL THEY RETAIN TO LUBRICATE THEMSELVES!
SECOND...
She added as they drew close
...ALL SEALS NATURALLY HAVE SOME SEEPAGE!
THIRD...
She pointed out to the awed crowd
...YOU CAN'T ALWAYS DEPEND ON YOUR EYE. OFTEN THIS LEADS TO MISTAKES IN JUDGMENT AND TOO MUCH REPLACEMENT OF PERFECTLY GOOD SEALS!
THEN WHAT'S THE ANSWER ...WHAT'S OUR GUIDE?
THE QUESTION YOU MUST ASK YOURSELF IS...HOW MUCH FLUID IS LOST IN HOW MUCH TIME?

A SEEP becomes a LEAK when lube can be seen dripping in the form of drops . . . or beads of oil
PARA. 15 TB 9-255 (19 MAY '60) IS YOUR REFERENCE!

OR you have a LEAK when excessive amounts of lube . . .
. . . are LOST between scheduled lube services . . .
USUALLY ABOUT 10 PERCENT OF THE AMOUNT CONTAINED IN THE GEAR BOX OR HOUSING!
AHA . . . AND PARA 12 TB 9-255 (19 MAY '60) IS MY AUTHORITY FOR THIS!!

. . . not the least of which was for the "uncanny" ability of his men to properly judge which was a leak and which was a seep. No mean feat I might add because of the wonderful saving in unnecessary replacement that resulted.






## PUB STORAGE

*Dear Sgt Dozer,*

*Is it necessary to install the canvas publications case on Engineer equipment which comes with compartments already built-in for storing operations and maintenance pubs?*

*Sp5 E.M.*

Dear Specialist E. M.,

Nope. There's no need to install the publications case (FSN 7520-559-9618) on equipment with built-in compartments designed for that purpose.

Sgt Dozer

## A LIGHT SUBJECT

*Dear Sgt Dozer,*

*Supply Bulletin 5-109 (10 Mar 61) says that flashlight components will not be stocked in the Engineer supply system.*

*OK, but what's the story on electric hand lanterns? The catalogs continue to list lantern parts, but none are available.*

*Sgt P. S. D.*

Dear Sergeant P. S. D.,

A timely question. You can look for lanterns to fall into the same classification as flashlights and for the spare parts listing for this type of item to be deleted from the catalogs.

It'd be a lot more economical for you to repair electric lanterns by cannibalization than it would be to stock and supply spare parts for these items.

# ARMOR VEST STORAGE

*Dear Half-Mast,*

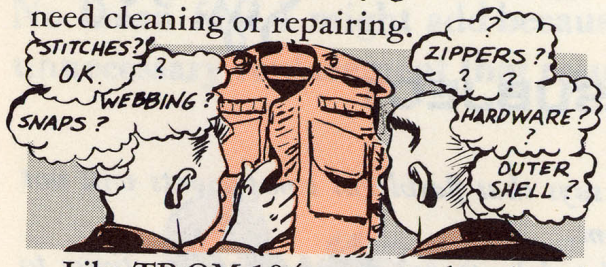
*Can you tell us how to go about storing body armor vests at the organizational level? We can't seem to find anything on this in the pubs.*

*LT W. J. M.*

Dear Lieutenant W. J. M.,

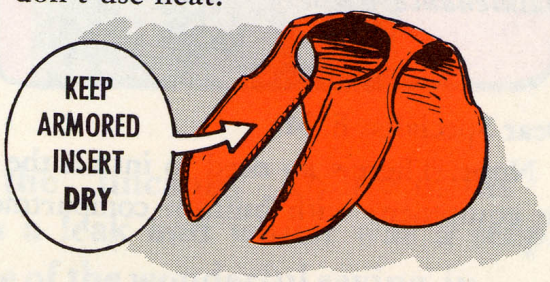
You're right, Sir, the pubs don't have anything on storage, but TB QM 104 (10 Jun 60) has a lot of dope on cleaning and drying these vests—two steps that're important in the storage deal.

However, the first step is inspection. Eyeball each vest carefully for broken stitches, torn or damaged outer shell, dirty or mildewed webbing, punctured vinyl casing, damaged or missing inserts, slide or snap fasteners that won't work and missing or badly corroded hardware. Set aside any garments that need cleaning or repairing.



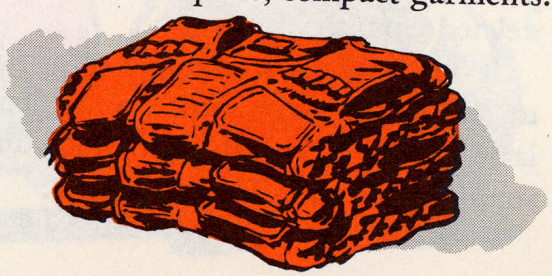

Like TB QM 104 says, you brush and clean the outer cover to get rid of dirt and grit that could break the material. And brush and clean the slide fastener teeth to get rid of grit and other stuff that might foul 'em up.

To remove stains on the outer cover, scrub the stained area with a detergent solution made by dissolving one tablespoon of spot remover (Spot remover, powder form . . . FSN 6850-163-2544 . . . 1 lb.-QM) in a gallon of water. Rinse with clear water, but be mighty careful no water gets into the armor insert. Then let the vest dry out good. But don't use heat.



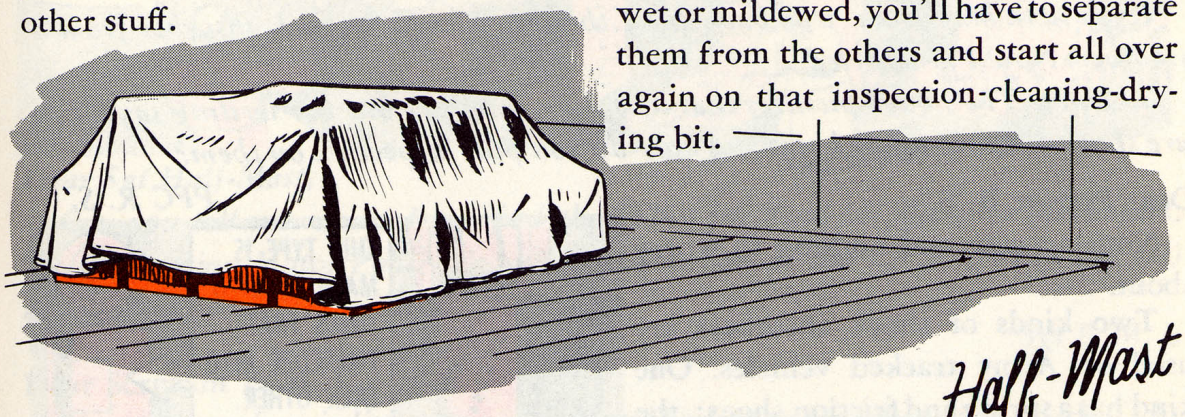

Don't try to repair your vest. If it needs anything more than minor repair, turn it in. Of course, in a tight spot you might be able to salvage some vests by cannibalization-replacement with good parts from otherwise damaged items. The important thing, though, is to make sure each vest will give the best protection possible under the circumstances.

Keeping 'em clean and dry is the big trick during storage. First, close the slide fasteners and flaps and fold the vests into complete, compact garments.



Then put 'em in boxes or cartons or open bins inside a dry building or tent. Last, cover the entire pile with a cloth or plastic sheet to keep out dust, dirt and other stuff.

Be mighty sure, though, that you don't stack them on floors or near windows where they might get wet—or even damp. 'Cause if any of the vests do get wet or mildewed, you'll have to separate them from the others and start all over again on that inspection-cleaning-drying bit.



Half-Mast

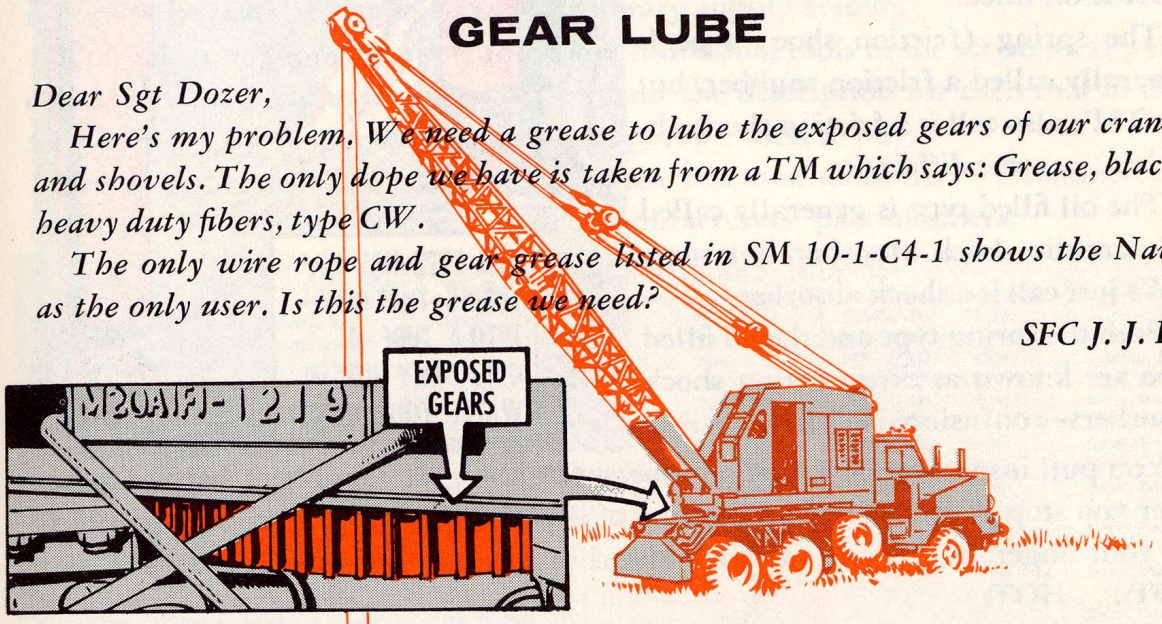
## GEAR LUBE

*Dear Sgt Dozer,*

*Here's my problem. We need a grease to lube the exposed gears of our cranes and shovels. The only dope we have is taken from a TM which says: Grease, black, heavy duty fibers, type CW.*

*The only wire rope and gear grease listed in SM 10-1-C4-1 shows the Navy as the only user. Is this the grease we need?*

*SFC J. J. D.*




Dear Sgt J. J. D.,

Nope, that's strictly a Navy deal. What you need to keep you and your Engineer friends happy is Lubricating Oil, Chain-Wire Rope-Exposed Gear, CW Type II. It comes in three grades depending on whether you intend it for cold, warm, or hot weather use. In most cases, you'll probably use the warm weather type.

Here's what you want:

FSN 9150-261-7891 Grade A, (Cold Weather) 35 lb. pail
FSN 9150-246-3276 Grade B, (Warm Weather) 35 lb. pail
FSN 9150-264-2918 Grade C, (Hot Weather) 35 lb. pail

They're QM items and you'll find them listed on page 43 in SM 10-1 C4-1 (Feb 61).

Sgt Dozer

# SHOCKS vs SNUBBERS

*Dear Half-Mast,*

*I'm a tank man from 'way back and I thought I knew a shock absorber from a snubber. Now I'm worried.*

*The new TM's have pictures that look like snubbers but the writing says they are shocks. Is this a new kind, and how do you pull inspection on them?*

*PFC R. S.*

Dear Private R. S.,

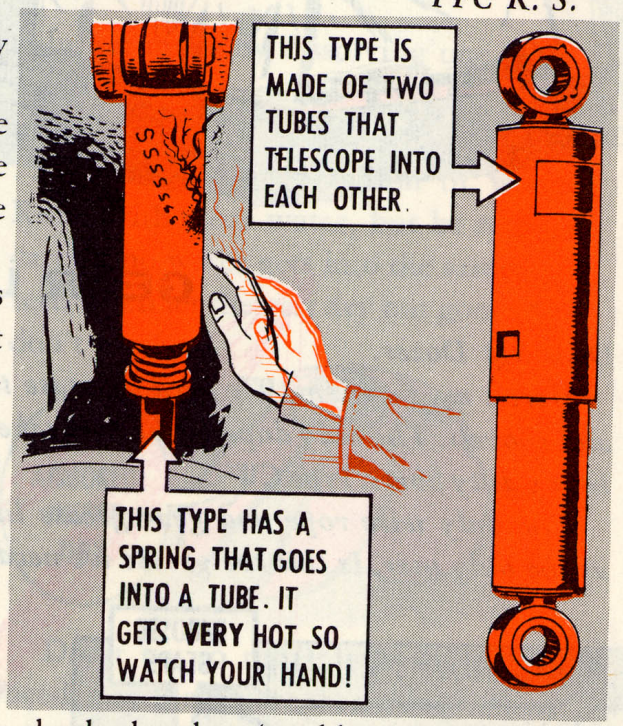
Nothing new and nothing to worry about.

Two kinds of shock absorbers are used on Army tracked vehicles. One kind has a spring and friction shoes; the other is oil filled.

The spring (friction shoe) type is generally called a friction snubber, but the TM's also call it a friction shock absorber . . . same difference.

The oil filled type is generally called a hydraulic shock absorber but some TM's just call it a shock absorber.

Both the spring type and the oil filled type are known as direct acting shock absorbers—confusing; isn't it?




You pull inspection on a friction shoe shock absorber (snubber) half an hour after you stop your vehicle—on account of if you tried to do it much sooner you'd fry your finger. If this type of shock absorber is working right it'll run HOT . . . HOT . . . HOT.

If the hydraulic type shock is working right it'll be just a little warmer than the the hull after you've road tested your tank .

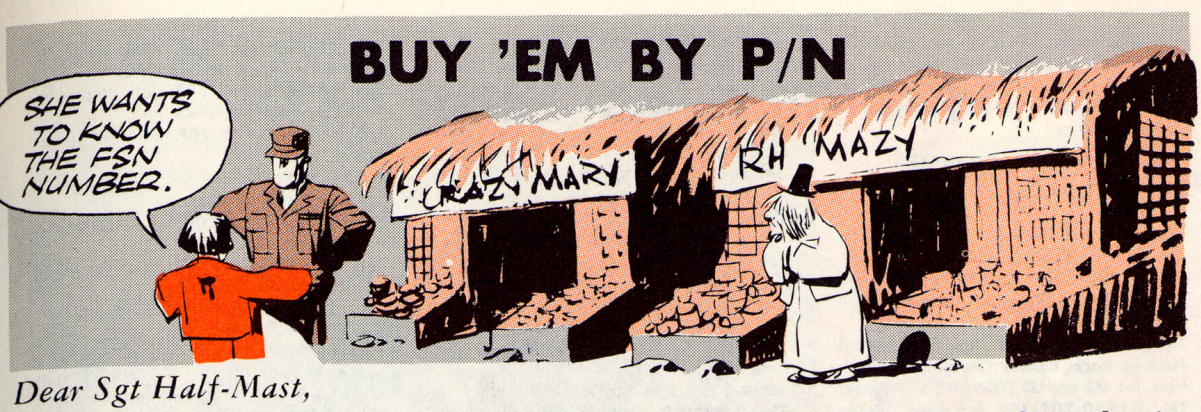
So-o-o-o, with **any** type shock absorbers, make like it's a hot stove and spit on it first to see if it's too hot to handle.

Only one other thing to remember, the spring type and the oil filled type are **families** of shock absorbers. A spring type from one tracked vehicle, like say an M88 VTR, won't work right on an M60 tank. They are both the same type but the spring tensions are different and they go under different FSN's.

Just because they're the same size and shape doesn't mean they are the same. Like a man or a cigarette, it's what's inside 'em that counts. So always check your TM and use the shock absorber that it calls for.

*Half-Mast*

# BUY 'EM BY P/N




*Dear Sgt Half-Mast,*

*Can you tell me where I can find the FSN's for Tool Set, General Mechanics, Transportation Motor Pool? It's authorized as part of the TA 55-34 (23 Feb 60) allowances for TMP maintenance shops.*

*Sgt E. M. L*

Dear Sergeant E. M. L.,

Since this tool set is listed as a commercial nontype classified item in the TA, it doesn't have to be cataloged in the military supply system.

You ask your supply support to get the individual tools in the set on local purchase. The manufacturer's part number and the description for each tool in the set are in the TA to clue both you and support on what to buy.

For extra help in identifying most of these common tools, here's a commercial list with FSN's cross referenced to the manufacturers' part numbers:

## THE 5114-GS-B GENERAL MECHANICS TOOL SET

| | | |
|---|---|---|
| 5120-227-8129 | F-67B | Ratchet Adaptor |
| 5120-243-7322 | 67C | Ratchet Adaptor |
| 5120-240-8703 | A-2 | Adaptor |
| 5120-240-8702 | A-4 | Adaptor |
| 5120-223-6986 | A-27 | Adjuster, Draglink |
| 5120-240-6050 | #1658 | Bar, Pinch |
| 5120-224-1389 | #1650 | Bar, Pry |
| | KRA-255 | Box, Socket |
| | GA-81 | Brush, Cleaning |
| 5140-494-2015 | KRA-53 | Chest, Tool |
| 5110-186-7107 | PC-816 | Chisel, Cold |
| 5110-236-3272 | PC-824 | Chisel, Cold |
| | N-6578 | Drift, Brass |
| 5120-227-8105 | TM-2 | Extension, Wrench |
| 5120-243-7325 | TM-60 | Extension, Wrench |
| 5120-243-1689 | FX-2 | Extension, Wrench |
| 5120-273-9203 | FX-6 | Extension, Wrench |
| 5120-243-1691 | FS-11 | Extension, Wrench |
| 5120-293-3458 | SX-3 | Extension, Wrench |
| 5120-243-7326 | SX-5 | Extension, Wrench |
| 5120-227-8074 | SX-10 | Extension, Wrench |
| 5210-273-1935 | #309-W | Gage, Gap Setting |
| | #324 | Gage, Thickness |
| 5120-224-4082 | BP-12 | Hammer, Ball Pien |
| 5120-243-2963 | BP-24 | Hammer, Ball Pien |
| 5120-221-7960 | TM-10D | Handle, Socket, Wr. |
| 5120-242-3256 | TM-4 | Handle, Socket, Wr. |
| 5120-221-7957 | GM-70R | Handle, Socket, Wr. |
| 5120-221-7966 | TM-5 | Handle, Socket, Wr. |
| 5120-542-4748 | F-10L | Handle, Socket, Wr. |
| 5120-240-5364 | F-71C | Handle, Socket, Wr. |
| 5120-237-4969 | F-4L | Handle, Socket, Wr. |
| 5120-236-7958 | NS-15L | Handle, Socket, Wr. |
| | L-710 | Handle, Socket, Wr. |
| 5120-230-6364 | K-4L | Handle, Socket, Wr. |
| | PK-12 | Knife, Putty, Strt. |
| 5110-239-8253 | #86 | Pliers, Cutter |
| 5120-223-7397 | #47 | Pliers, Gripping |
| 5120-278-0352 | #90 | Pliers, Gripping |
| 5120-197-9488 | PC-3C | Punch, Center |
| | PC-106 | Punch, Drift |
| 5120-223-1052 | PC-108 | Punch, Drift |
| | PC-110 | Punch, Drift |
| 5120-242-3433 | PC-204 | Punch, Starter |
| 5120-242-3434 | PC-208 | Punch, Starter |
| | SDP-31S | Screw Driver |
| 5120-234-8913 | SDP-42S | Screw Driver |
| 5120-234-8912 | SDP-63S | Screw Driver |
| 5120-227-7293 | SDP-22S | Screw Driver |
| 5120-180-0550 | SD-234 | Screw Driver |
| | SD-1 | Screw Driver |
| 5120-180-0574 | SD-2 | Screw Driver |
| 5120-222-8852 | SD-4 | Screw-Driver |
| 5120-237-6985 | SD-8 | Screw Driver |
| 5120-236-2262 | TM-6 | Socket, Wrench |
| 5120-236-2263 | TM-7 | Socket, Wrench |
| 5120-236-2264 | TM-8 | Socket, Wrench |
| 5120-242-3345 | TM-9 | Socket, Wrench |
| 5120-232-5703 | TM-10 | Socket, Wrench |
| 5120-232-5704 | TM-11 | Socket, Wrench |
| 5120-241-3186 | TM-12 | Socket, Wrench |
| 5120-239-0016 | TM-14 | Socket, Wrench |
| 5120-277-4250 | TM-16 | Socket, Wrench |
| 5120-189-7906 | TM-408 | Socket, Wrench |
| 5120-189-7907 | TM-410 | Socket, Wrench |
| 5120-189-7908 | TM-412 | Socket, Wrench |
| 5120-227-6702 | F-121 | Socket, Wrench |
| 5120-227-6703 | F-141 | Socket, Wrench |
| 5120-237-0977 | F-161 | Socket, Wrench |
| 5120-227-6704 | F-181 | Socket, Wrench |
| 5120-293-0091 | F-191 | Socket, Wrench |
| 5120-237-4973 | F-201 | Socket, Wrench |
| 5120-232-5706 | F-221 | Socket, Wrench |
| 5120-227-6705 | F-241 | Socket, Wrench |
| 5120-235-5807 | F-261 | Socket, Wrench |
| | SF-261 | Socket, Wrench |
| 5120-242-3355 | FU-16A | Socket, Flex |
| 5120-237-0978 | FU-18A | Socket, Flex |
| 5120-237-4974 | FU-20A | Socket, Flex |
| 5120-189-7924 | SW-141 | Socket, Wrench |
| 5120-237-0984 | SW-161 | Socket, Wrench |
| 5120-189-7932 | SW-181 | Socket, Wrench |
| 5120-189-7946 | SW-201 | Socket, Wrench |
| 5120-235-5870 | SW-221 | Socket, Wrench |
| 5120-189-7985 | SW-241 | Socket, Wrench |
| 5120-189-7915 | SW-251 | Socket, Wrench |
| 5120-189-7933 | SW-261 | Socket, Wrench |
| 5120-189-7935 | SW-301 | Socket, Wrench |
| 5120-189-7927 | SW-321 | Socket, Wrench |
| 5120-180-0810 | F-37D | Screw Driver |
| | FRS-70 | Spinner, Ratchet |
| 5120-180-0881 | FP-42A | Screw Driver |
| | B-3404-B | Wrench, Brake |
| | S-9523 | Wrench, Brake |
| 5120-224-3135 | XV-1214 | Wrench, Box Dble. |
| 5120-224-3136 | XV-1616 | Wrench, Box Dble. |
| 5120-224-3141 | XV-2022 | Wrench, Box Dble. |
| 5120-224-3142 | XV-2428 | Wrench, Box Dble. |
| 5120-224-3143 | XV-3032 | Wrench, Box Dble. |
| 5120-222-1596 | XV-1820 | Wrench, Box |
| 5120-240-5328 | D-78 | Wrench, Adjustable |
| 5120-277-2342 | S-1214 | Wrench, Open End |
| 5120-187-7123 | S-1416 | Wrench, Open End |
| 5120-187-7124 | S-1618 | Wrench, Open End |
| 5120-187-7126 | S-1820 | Wrench, Open End |
| 5120-277-1228 | S-1922 | Wrench, Open End |
| 5120-224-3102 | S-2024 | Wrench, Open End |
| 5120-277-3021 | S-2526 | Wrench, Open End |
| 5120-240-5609 | S-2428 | Wrench, Open End |
| 5120-596-8587 | S-3032 | Wrench, Open End |
| 5120-243-1686 | TMU-8 | Wrench, Univ. Jnt. |
| 5120-224-9215 | FU-8A | Wrench, Univ. Jnt. |
| 5120-269-7971 | 8-L | Wrench, Univ. Jnt. |



Half-Mast

*A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins.*

## TECHNICAL MANUALS

**TM 1-320** Jan Org A Maint Super's Manual.

**TM 3-4240-230-12** Jan Mask, Gas, Acid and Organic Vapors, M10.

**TM 5-1090-200-15, -25P** Feb Weapon-sight, Infrared Telescope Assembly, Varo Model 9903.

**TM 5-1090-202-25P** Jan Sniperscope: Infrared Rack: Battery Charging w/Rectifiers; for M2 and 20,000-Volt Sniperscope.

**TM 5-1940-202-20P** Jan Boat, Bridge Erection, Inboard Engine: 27 Ft Lg Combined Metal Mod 27 Higgins Mod T-1-50 Lone Star Mod Lone Star.

**TM 5-2330-205-15P** Feb Trailer, Low Bed: 8 Ton; Fruehauf Mod CPT-8 Spec.

**TM 5-2330-207-25P** Jan Trailer, Flat Bed: 10 Ton; Mil Spec T-13033.

**TM 5-2330-208-25P** Feb Trailer Bolster: 2½ Ton; All Makes and Mod.

**TM 5-2330-211-25P** Jan Trailer, Low Bed: 60 Ton; Rogers Mod DW-60-LS-6.

**TM 5-2330-212-25P** Feb Trailer, Low Bed: 60 Ton; Steel Products Mod Great Dane.

**TM 5-2330-213-25P** Jan Trailer, Low Bed: 60 Ton; Fontaine Mod C16-60-SP.

**TM 5-2330-214-25P** Jan Trailer, Flat Bed: 7 Ton; LaCrosse Model CTP7F or Equal.

**TM 5-2330-215-25P** Jan Trailer, Low Bed: 8 Ton; Hobbs Mod F-1386.

**TM 5-3210-200-10** Feb Sawmill Circular: Semi-trailer Mtd; Diesel Driven, Northeast Ohio Machine Builders Mod PN 25.

**TM 5-3610-200-25P** Jan Printing Press; Proof: Offset; Floor Mounting; Rutherford Machinery Mod-2.

**TM 5-3810-220-15** Jan Crane-Shovel, Wheel-Mounted, 7 Ton, ½ Cu Yd Military Mod M7 Gar-Wood.

**TM 5-3810-222-25P** Jan Crane, Tractor Towed: 20 Ton; Letourneau-Westinghouse Model M-20.

**TM 5-3810-228-10** Feb Crane-Shovel, Basic 20 Ton, ¾ Cu Yd; Quickway Mod M202.

**TM 5-3825-213-20** Jan Snow Removal Unit, Self-Propelled: Gasoline Driven; Fwd Mod S-349-V.

**TM 5-3830-201-25P** Feb Crane, Revolving, 7500-lb Cap, for Caterpillar D-7 Tract Hystaway Model HW.

**TM 5-3830-202-25P** Feb Plow, Snow: Straight-Blade; Truck Mounting, Burch Ross Mod R-23.

**TM 5-3895-218-15** Feb Paving Machine, Bituminous Material: Barber-Green Model 879-B.

**TM 5-4310-229-10** Feb Compressor, Rotary: Air; 210 CFM; 100 PSI Davey Mod M-210-RP.

**TM 5-4320-219-20P** Jan Pump, Centrifugal: 1500 GPM, 60 Ft Head Carver Mod KN6H-S.

**TM 5-6115-233-20P** Jan Generator Set, Diesel Engine: 30 KW, Skid Mounted.

**TM 5-6115-248-20P** Jan Generator Set, Diesel Engine: 30 KW, AC, U.S. Motors Mod 30-US16936.

**TM 5-6115-248-35P** Feb Generator Set, 30-KW, AC, U.S. Motors Mod 30-US-16936.

**TM 5-6115-273-15** Jan Generator Set, Diesel Engine, 60 KW, Cummins Model JS-6-G-60 KW, 50/60 Cycle.

**TM 5-6115-309-20P** Feb Generator Set, 100 KW, AC, 240 V, Consolidated Diesel Mod 1617.

**TM 5-6115-330-15** Jan Generator Set, Gasoline Engine 0.125 KW, AC, Jacobsen Mod UGP-12.

**TM 8-4310-200-15P-C3-RP** Jan Vacuum Pump, Rotary, AC, Pioneer Air Compr. Co.

**TM 8-6515-204-15P-C3-RP** Jan Drainage and Suction Apparatus, Surg Wang Phel Type Portable.

**TM 9-258** Feb Elementary Optics, Application to Fire Control Instruments.

**TM 9-273** Jan Lub of Ord Material.

**TM 9-1015-223-12, -20P** Feb 90-MM Rifle M67.

**TM 9-2300-224-20** Dec APC M113.

**TM 9-2320-235-20, -20P** Jan Truck, Cargo: M35A1 Multifuel Engine.

**TM 9-2330-207-24P** Jan Chassis Semi-trailer: 12-Ton, M126, M126A1, M127, M127A1, M127A1C, M128A1, M128A1C, M129A1 and M129A1C.

**TM 9-2330-211-14, -24P** Jan Semi-trailer, Low Bed; 15-Ton, M172, and 25-Ton M172A1.

**TM 9-3439-200-12P** Feb Resistance Heating Soldering and Brazing Outfit.

**TM 9-4910-401-20P** Feb Low Tension Circuit Automotive Generator and Regulator Test Set.

**TM 9-4910-402-20P** Feb Volt Low Tension Circuit, Automotive Gen and Reg Test Set.

**TM 7-6920-205-14, -24P** Mar Night Firing Target Mechanism XM31.

**TM 9-6920-210-24P** Jan Small Arms Target Equip.

**TM 9-6920-216-14, -24P** Jan Trainfire Target Mech M30.

**TM 10-3930-215-10, -20** Feb Gasoline, Pneumatic-Tired Wheels, 6,000 Pound Army MHE 171.

**TM 11-3895-210-13** Feb Reeling Machine, Cable, Hand RL-220/MSQ-28 through RL-227/MSQ-28.

**TM 11-5815-281-12** Feb Distributor-Transmitter Set, Teletypewriter AN/GGC-9.

**TM 11-5820-256-20** Jan Radio Set AN/GRC-26D.

**TM 11-5820-267-12P** Feb Power Supply PP-804/U.

**TM 11-5820-271-20P** Jan AN/VRC-19.

**TM 11-5820-399-20P** Mar Receiver-Transmitter, Radio RT-246/VRC.

**TM 11-5820-401-20P** Mar Radio Sets AN/VRC-12, AN/VRC-43, AN/VRC-44, AN/VRC-45, AN/VRC-46, AN/VRC-47, AN/VRC-48 & AN-VRC/49.

**TM 11-5820-402-20P** Feb Antenna AT-912 VRC (Including Mounting MX-2799/VRC).

**TM 11-5820-403-20P** Feb Mounting MT-1029/VRC.

**TM 11-5820-405-20P** Feb Control, Intercommunication Set C-2296/VRC.

**TM 11-5820-406-20P** Mar Amplifier, Audio Frequency AM-1780/VRC.

**TM 11-5820-407-20P** Mar Control, Frequency Selector C-2742/VRC.

**TM 11-5820-408-20P** Mar Control for Intercomm Set C-2298/VRC.

**TM 11-5820-409-20P** Mar Receiver, Radio R-442/VRC.

**TM 11-5820-410-20P** Mar Control, Intercommunication Set C-2297/VRC.

**TM 11-5820-411-20P** Feb Mounting MT-1898-VRC.

**TM 11-5820-412-20P** Feb Control, Radio Set C-2299/VRC.

**TM 11-5820-420-20P** Feb Receiving Set, Radio AN/FRR-34.

**TM 11-5820-487-20P** Mar Receiver-Transmitter, Radio RT-524/VRC.

**TM 11-5835-212-12P** Jan Recorder-Reproducer RD-173/UN.

**TM 11-5840-241-20P** Jan AM-1570/TPS-1D.

**TM 11-5841-233-12** Jan Test Set, Power Supply TS-1665/APQ-86.

**TM 11-5895-288-20P** Feb Communications Central AN/TSC-20.

**TM 11-5895-335-20P** Feb Amplifier AM-130/U.

**TM 11-5965-202-12P** Feb Handsets H-33E/PT & H-33F/PT.

**TM 11-6130-226-12P** Jan Charger, Battery PP-2989/G.

**TM 11-6625-201-12** Feb Test Set, Telephone TS-816/U.

**TM 11-6625-201-20P** Feb Test Set, Telephone TS-816/U.

**TM 11-6625-254-25P** Feb Test Sets, Teletypewriter TS-2/TG, TS-2A/TG, TS-2B/TG & TS-2C/TG.

**TM 11-6625-335-20P** Mar Indicator, Standing Wave Radio AN/UPM-108.

**TM 11-6625-347-20P** Feb Test Set, Indicator AN/GPM-41.

**TM 11-6625-368-20P** Feb Pulse Generator Sets AN/UPM-15A.

**TM 11-6625-393-20P** Mar Test Set, Radar AN/UPM-96.

**TM 11-6625-429-12** Feb Test Set, Circulator Head Setter TS-1687/MSM-34.

**TM 11-6625-430-12** Feb Test Set, Electronic Circuit Plug-In Unit TS-1712/MSQ-28.

**TM 11-6625-455-10** Feb Power Supply PP-962/U.

## LUBRICATION ORDERS

**LO 5-2805-203-14** Jan Engine, Gasoline: 6 HP; Mil Std Mod 4A032-1.

**LO 5-2805-204-14/LC** Jan Engine, Gasoline Mil Std Mod 2A042-1, 10 HP, Mod 4A084-1, 20 HP.

**LO 5-3810-228-20-1, -2, -3, -4 & -5** Jan Crane-Shovel, 20 Ton, ¾ Cu Yd; Quickway Mod M202 Winterized and Non-Winterized.

**LO 10-3930-215-20** Feb Truck, Lift, Fork, 6,000 Pound MHE 171.

**LO 10-3930-216-20** Dec 4,000-Pound Army Mod MHE 170.

## MODIFICATION WORK ORDERS

**MWO 3-376-25/1** Mar Flame Thrower, Port, M2A1 to M2A1-7.

**MWO 9-2350-215-20/6** Feb Tank M60 Removal of Instruction Plate.

## MISCELLANEOUS

**DA Form 8-11** Dec.

**DA Cir 345-1** Feb Retention of Maint Records Admin Use and Com Design Veh.

**DA Cir 750-6** Feb Discontinuance Lead Seal on Chutes, Troop, Chest, 24 Ft.

**DA Form 282** Jan.

**DA Form 672** Dec.

**DA Form 913-1** Dec.

**DA Form 6119-1** Dec.

**DA Form 6121-2** Dec.

**DD Form 1330** Dec.

**DD Form 1359** Dec Dispatch Record Admin Motor Vehicles.

**Std Form 78** Dec.

**SB 3-30-174** Mar Smoke, Pot, SGF2, AN-M7 (MK5, MOD3): SGF2, MK5, MOD2, and MK5, MOD2.

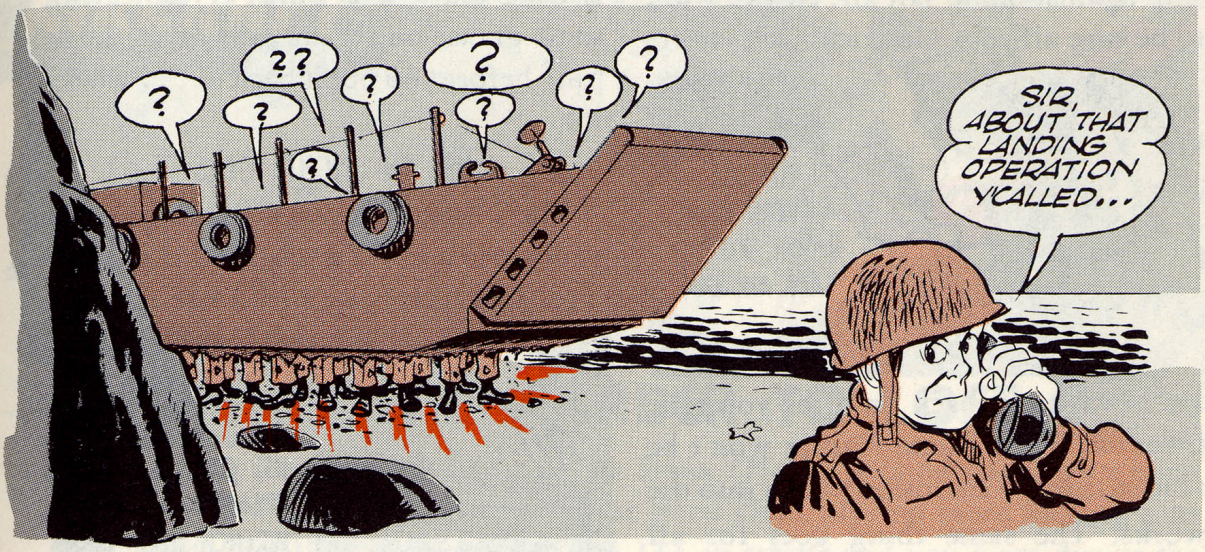
**SB 9-16** Feb Auto Materiel Winterization Equips.

**SB 11-535** Feb Transistor Power Supplies, AN/GRC-19.

**TB 9-2320-206-10/4** Jan Truck Tractor and Cargo M123, M123C, M125: Install and Oper of Winterization Kit.

TAKES A HEAP OF PM TO...

# KEEP RUST ON THE RUN




There's no doubt it takes a lot of PM to keep the Army's navy ship-shape—what with rust and corrosion fightin' you every inch of the way.

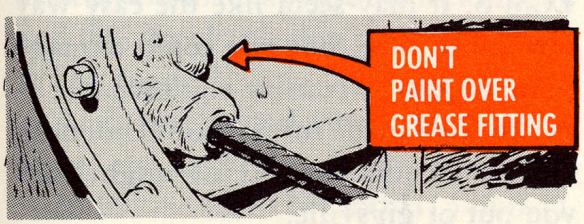
Take your light LCM-6, medium LCM-8, and heavy LCU-1466 landing craft. They'll move troops and equipment to the beach without a hitch if you give 'em a little attention.

'Course the problem with landing craft is that you may not use 'em regular-like. Still, they must have the care called for in the operator and organizational maintenance manuals, backed up by TM 55-507 on "Floating Craft Preventive Maintenance," and TM 55-508, "Landing Craft Operator's Handbook."

## GO EASY ON THE PAINT

But you don't want to go overboard on this corrosion fighting bit by smearin' paint over everything in sight.

Take the lube fittings on the ramp cables, for example. Or the cable access panels along the hull. Some types have been known to paint 'em so they're sealed tight, leaving no way to get at the rest of those cable grease fittings.

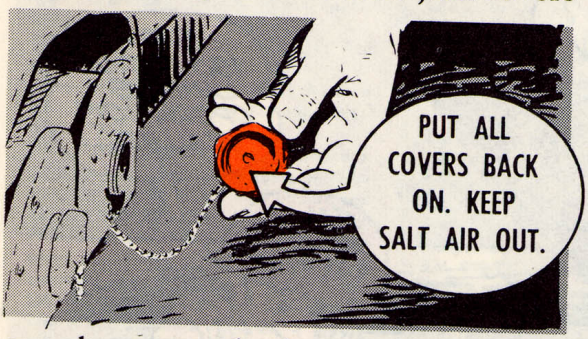



After all—you wouldn't want to go in for a landing and have the ramp hang up at the beach, so it takes a squad of troops jumping on it to bring it all the way down. But that's what can happen to the ramp if those cables don't get greased, proper-like.

You don't want to use a paint brush on the rubber covering your engine starter buttons in the wheel house, either. 'Cause painting over it will crack the rubber sure as shootin' when the paint dries—really let in the damp salt air . . . maybe foul up your starter switch for real!

## TAKE CARE OF COVERS

There's just no let-up in guarding a ship against damp salt air. So you want to be sure all your electrical jack covers




are always put back on after you take them off. Then Dame Nature won't be able to throw a corrosion punch into the works. The same thing goes for all other covers on board—they want to be covering what they're supposed to cover.

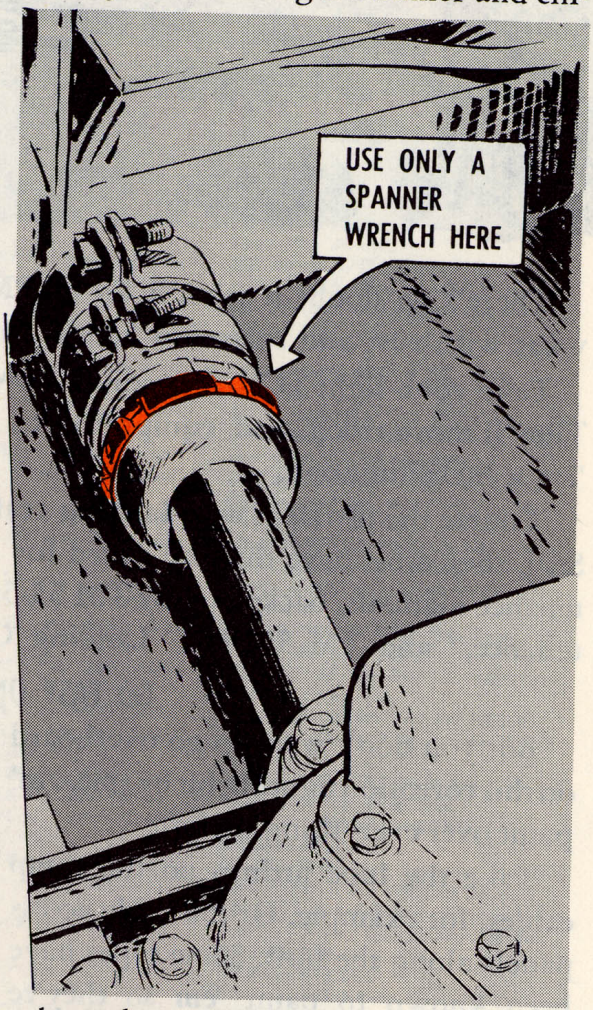
But you don't want to use too much muscle power on a cover so you have a job gettin' it off again, either.

Take the auxiliary steering cover plug on your LCM-6. Sometimes that plug will be frozen tight . . . and putting a hammer and chisel on the frozen plug will only bugger it. You want to stick with the plug wrench in your mar-

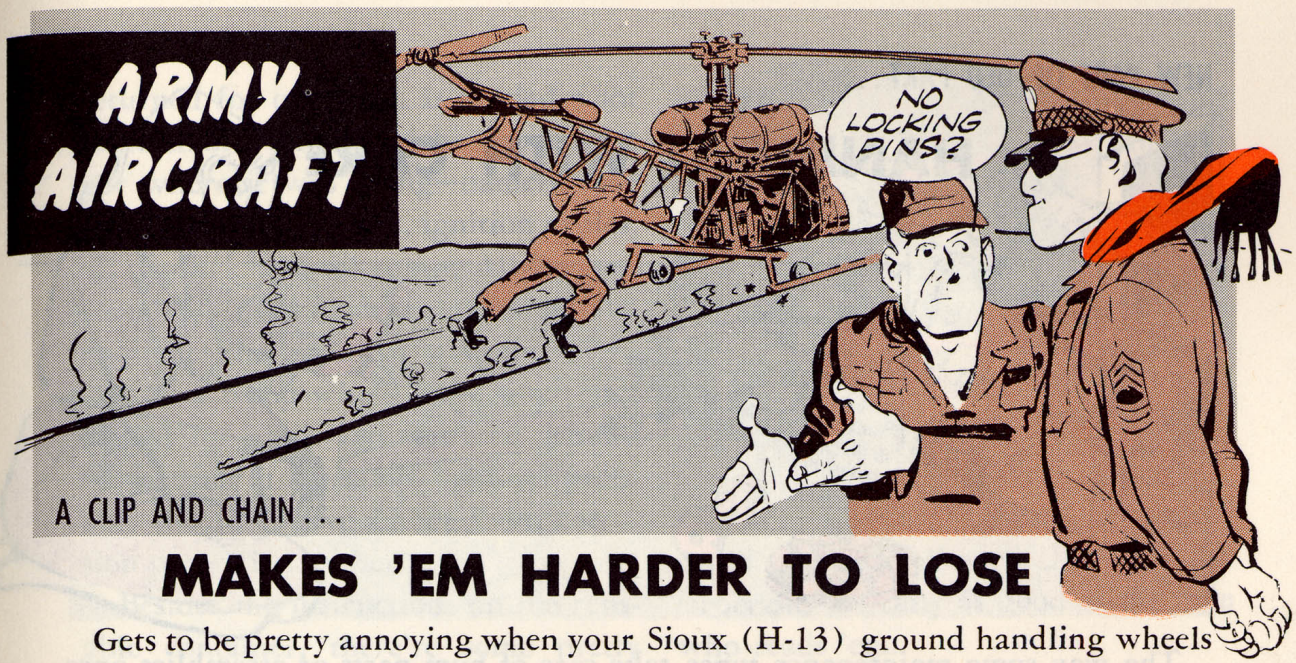
ine general mechanic's tool kit to unmuscle the plug. Then, to keep it from getting stuck next time, try smearing some grease on the threads of the same plug before you put it back in . . . works fine.

## USE THE RIGHT TOOLS

There's nothing worse than using the wrong tools to do a job—and that's for sure! Just like using a hammer and chi-

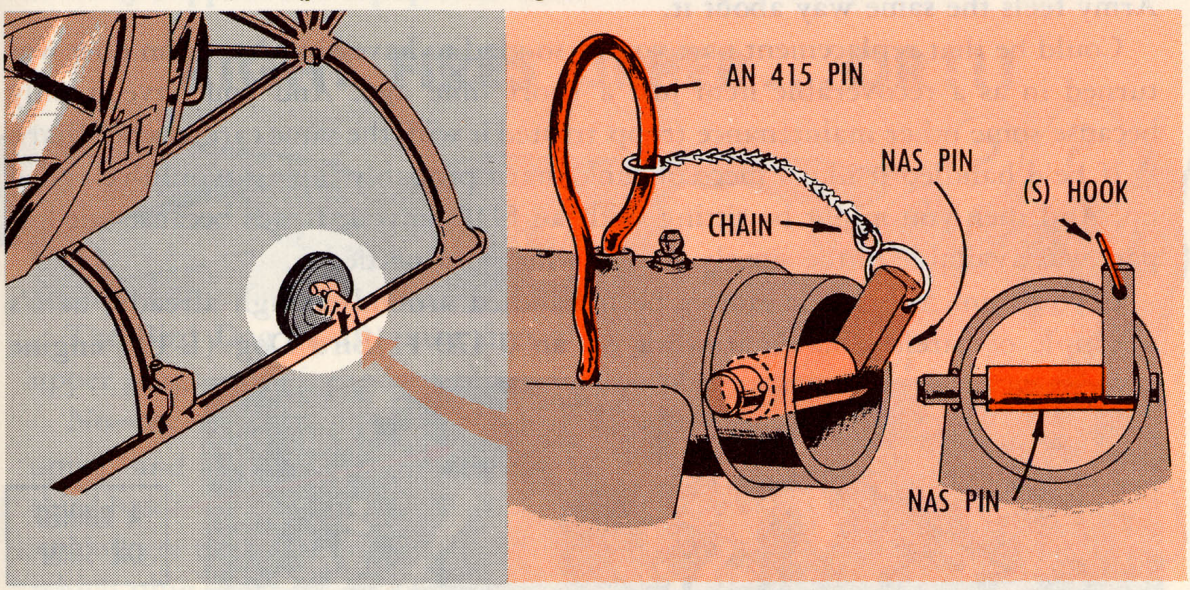



sel on those tempting spanner wrench slots of the shaft stuffing box on your LCM-6. It may seem like the easy way out at the time, but you could damage some mighty expensive equipment. Using the tool made for this job'll not only save your equipment—it just might keep you out of gigsville.




# MAKES 'EM HARDER TO LOSE

Gets to be pretty annoying when your Sioux (H-13) ground handling wheels won't stay in the lowered position—your parts clerk says no more locking pins (FSN 1560-236-9573, P/N 47-500-005-13) in stock—and you were due at the other end of the ramp two minutes ago.



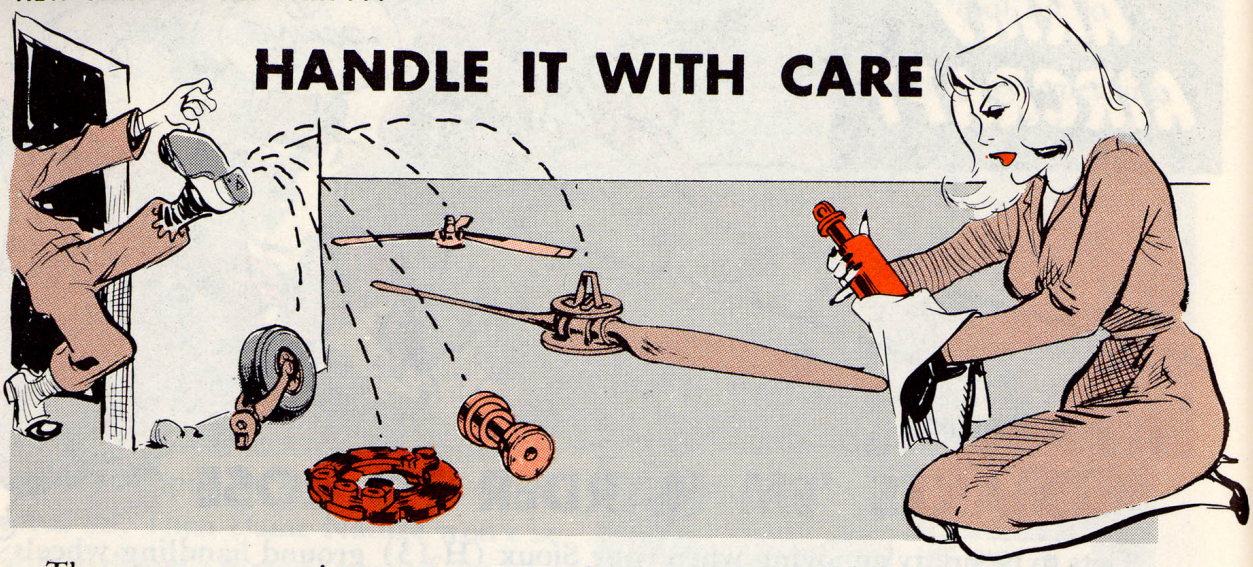

Sure! You can keep reminding your ground crew those pins will **not** be lost, but they're only human. So the next best thing is to come up with a chain and clip attachment to make sure the locking pin and the wheel axle don't part company, at any time.

And that's exactly what TC is doing about the situation. A new pin (FSN 1620-897-8442, P/N 1560-H13-060-1), complete with clip and chain, is slated for TM 55-1520-204-20P to replace the original one . . . and is available in the supply system right now.

The clip attaches to the wheel axle and the six-inch chain connects the clip to the locking pin. So if the pin is dropped while changing the wheel's position, the pin just dangles there until you lock the wheel in position again.

NEW PART OR OLD PART . . .

# HANDLE IT WITH CARE

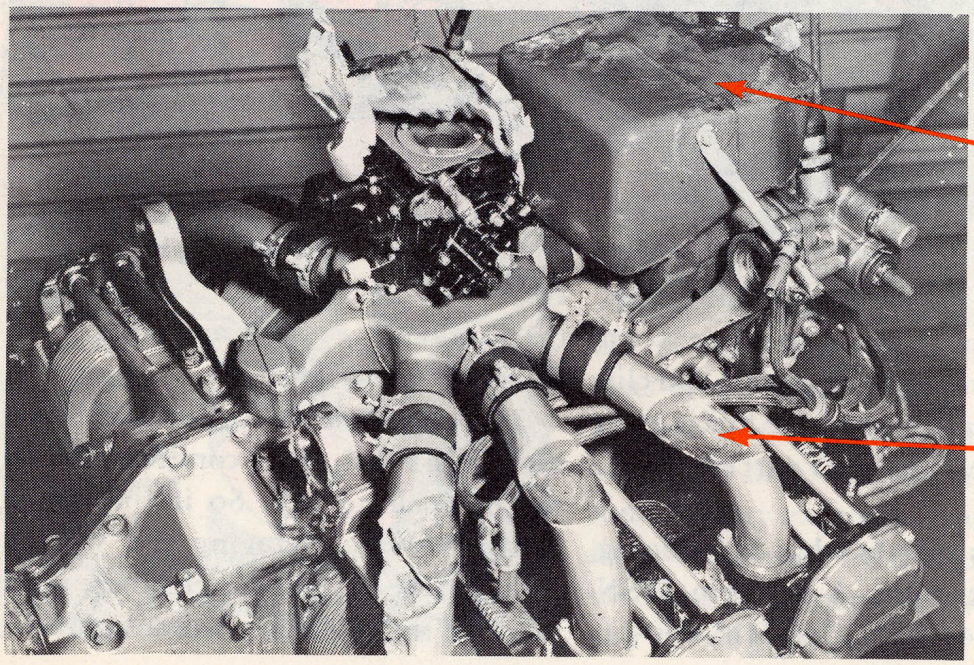


The way some maintenance types take care of bum parts or assemblies once they've pulled them off their equipment, you'd think they never heard of the word **reparable.** But just 'cause they're finished with that part doesn't mean the Army feels the same way about it.

Could be that replacement part you're so glad to have your hands on now was turned in as a recoverable item just a short time ago. And you have it only because some other maintenance troop treated it with the same care as a new part.

If he'd handled it like a piece of junk, that's probably how it would've ended up. And then you might be sitting with an EDP on your hands because one less part was available in the supply system when **you** needed it.

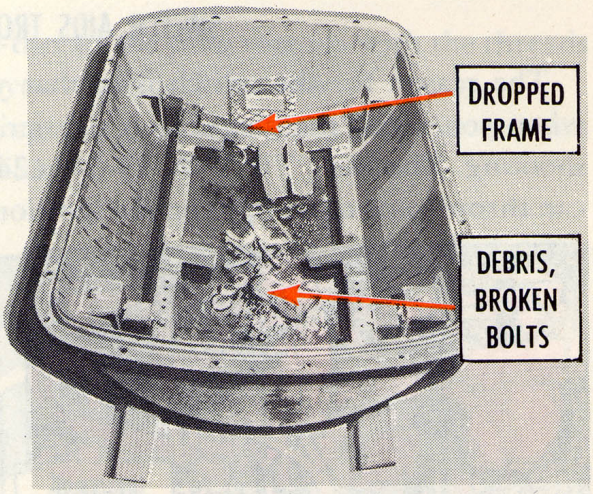
If you think this kinda story's been bandied around enough already, here's a sample of careless hands at work on an 0-470-11 Bird Dog (L-19) engine



returned for overhaul. It needed a lot more than overhauling by the time it got where it was going—namely, new intake mainifold pipes, ignition cables, oil dipstick and oil sump. All because somebody didn't bother to mount the engine to the container securely.

And a troop who'd leave gunk and busted up hardware scattered around the bottom of the same container probably wouldn't give a hoot about corrosion protection, either.

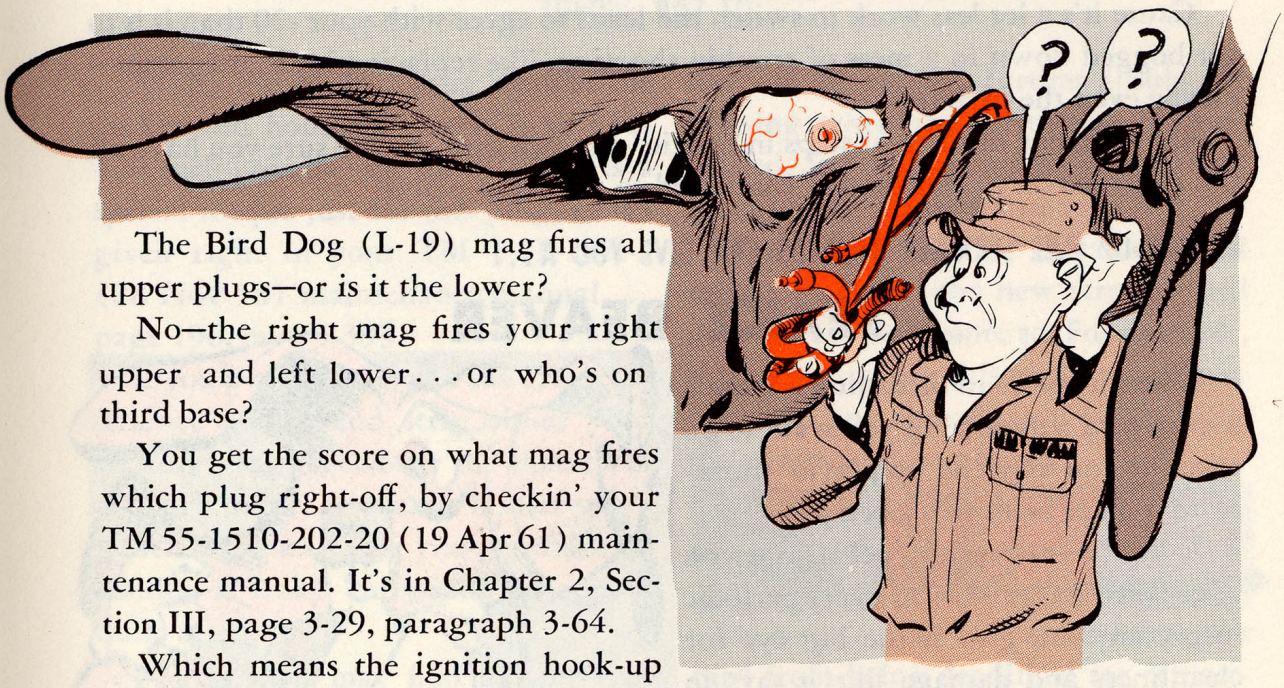
Besides the instructions on the reusable container, there're some pretty detailed rules in TM 38-230 on "Preservation, Packaging and Packing of Military Supplies and Equipment" that




could've been followed. But then instructions are only as good as the man who reads 'em.

All it takes to convert a normally recoverable item into an economically **non-reparable** part is — **carelessness.**

# RIGHT FIRES UPPER...OR!!!




The Bird Dog (L-19) mag fires all upper plugs—or is it the lower?

No—the right mag fires your right upper and left lower... or who's on third base?

You get the score on what mag fires which plug right-off, by checkin' your TM 55-1510-202-20 (19 Apr 61) maintenance manual. It's in Chapter 2, Section III, page 3-29, paragraph 3-64.

Which means the ignition hook-up poop on your 0-470-11 and 0-470-15 engines in the original TM 1-2R-0470-2 and TM 1-1L-19(T)-2-3, is out the window!

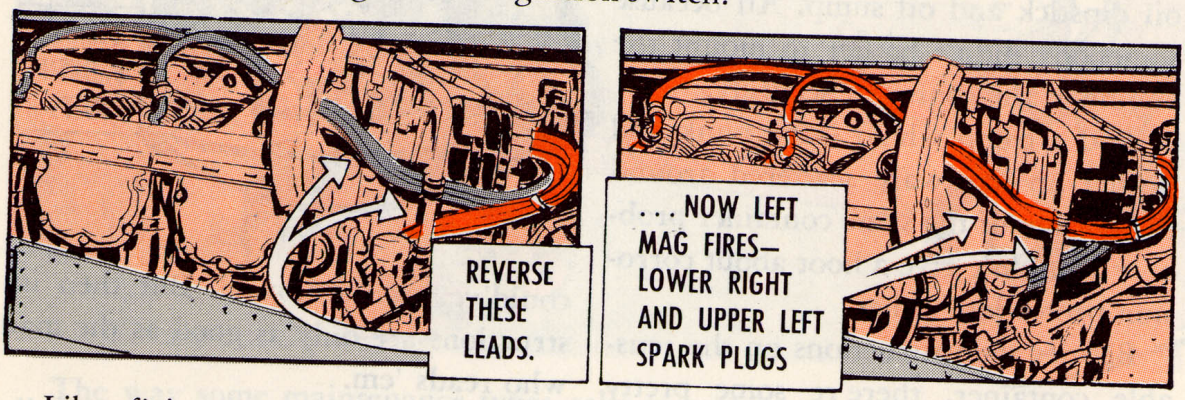
So instead of the right mag firing all upper plugs and the left mag firing all lower plugs (like it was in the old pubs), the new set-up goes like this.

The **left mag** fires the **lower right** and **upper left** spark plugs and the **right mag** fires the **upper right** and **lower left.**

P.S. MORE

## SWITCH AIDS TROUBLE SHOOTING

The reason for the switch is so that you'll get a more uniform drop in RPM when you check the mags. So it's easier to identify a bum plug during trouble shooting. The basic TB AVN 23-5-1 (24 May 61), Chapter 6, project 58-5882, can throw some more light on the ignition switch.




Like, f'rinstance, the UR Digest says the 0-470-11 engine ignition leads are changed to agree with the -20 when the engine goes to overhaul . . . so far so good!

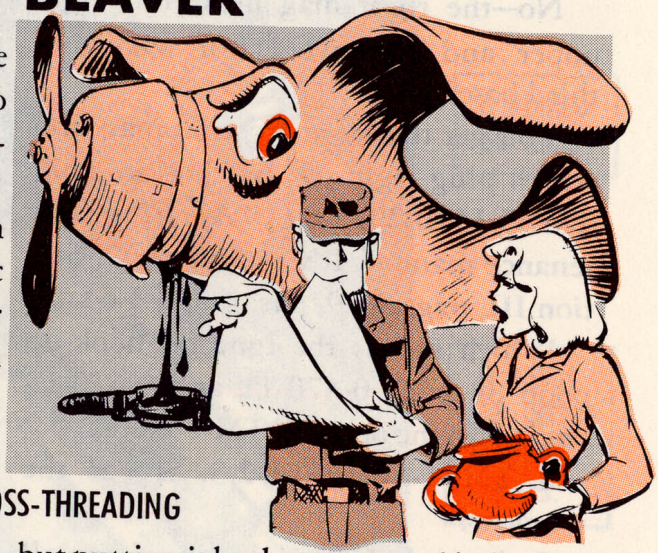
Meanwhile, if you have an engine coughin' up a storm with uneven mag drops —maybe even fouling out the plugs before the 1200-hour overhaul time rolls 'round, give your leads a quick check.

'Cause it's a lot less work to switch the leads to agree with your -20 than it is to get bogged down in a mess of trouble shooting, like replacing leads, magnetos—maybe even the carburetor.

After all, one of the first steps in treatin' any sick bird is to be sure you have all the right parts . . . and they're connected to the **right** places.

## BANGED-UP FUEL STRAINER THREADS CAN GIVE YOU A . . .

# LEAKY BEAVER



When it comes to threading a female socket with a male plug you want to go easy—or you may end up playin' nurse-maid to your bird with a bed pan.

Take the carburetor fuel strainer on your Beaver (L-20A). At every periodic inspection you give it the big eye for cleanliness and damage like it says in the periodic inspection part of TM 1-1L-20A-6 (17 Jan 62), on page 25.

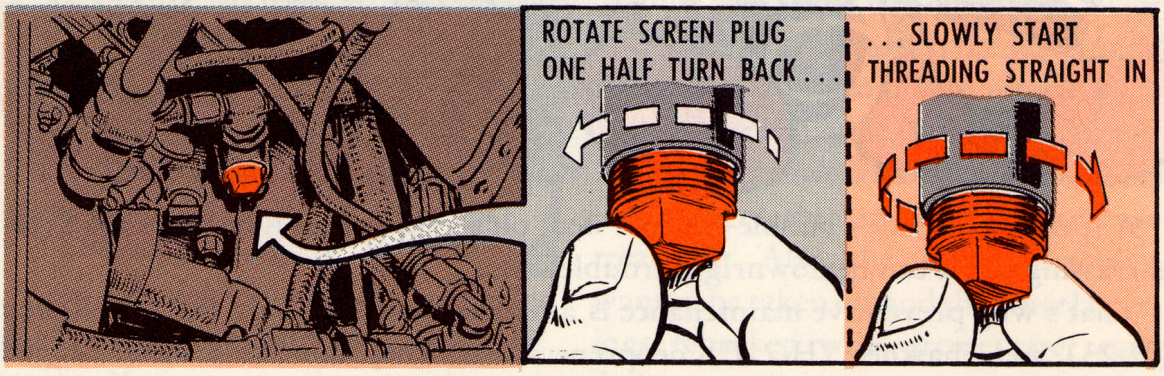
### WATCH CROSS-THREADING

Taking the screen out is no problem, but putting it back can get real hairy. The screen plug is made of brass and you know how soft that material is. Those threads

can fade on you right quick if you cross-thread the plug threads with the threads in the magnesium housing . . . and give you a fuel leak for sure.

It's not hard to see how cross-threading can get started since that screen comes in for quite a lot of removals for inspection.

SO TRY THIS FOR SIZE—




*When you put your strainer back, rotate the plug counter-clockwise, say half-a-turn or so, to make sure you've got a good flat starting point at the first thread. Then slowly start threading the plug into the carburetor housing in the usual clockwise direction. That should do the trick.*

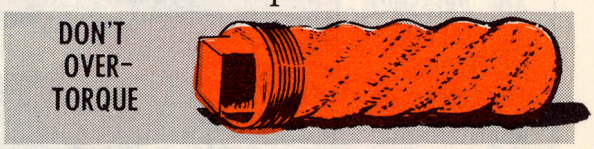
## TORQUE JUST SO . . .

When the plug is snug against the gasket and housing, torque it to 110-120 inch-pounds—**no more!** This is a special torque just for this plug, so it's given right in your TM 1-1L-20A-2 (28 Nov 58) maintenance manual . . . page 196, para 5-393.

If you over torque, you can crush the strainer gasket and strip either your strainer plug threads or the threads in the carburetor. It doesn't matter much which one goes 'cause you get the same results—a leaky carburetor. Happens quite often.

Fact is, you may find a later type strainer, P/N 16577 (threaded at the anti-plug end) has replaced P/N 13680 (threaded at the plug end), in some carburetors. Seems the threads on some housings have been getting banged up from strainer removals, and new threads have to be tapped further inside the housing when the carburetor is overhauled. So you need a new strainer and gasket to fit the new threads.

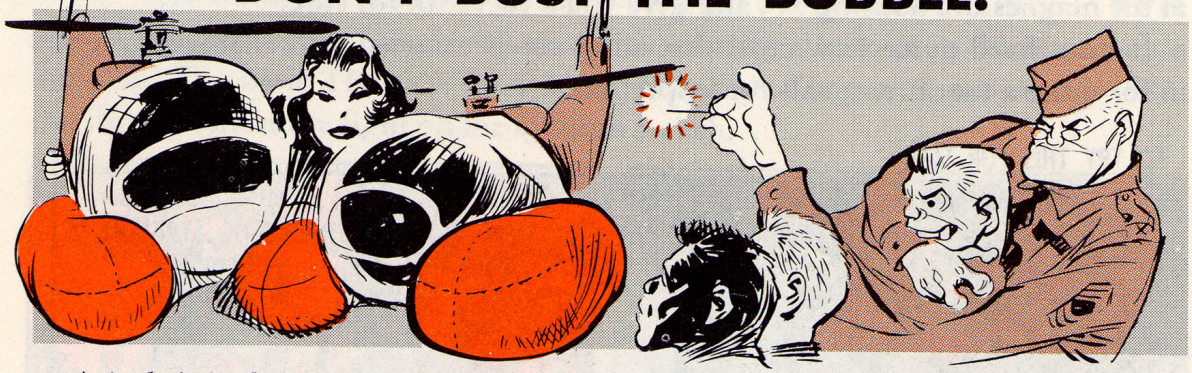
The same careful threading and torque value on the new strainer still goes too . . . only more so. For example, if you over-torque this strainer, you may not strip any threads, but you'll twist the strainer into a pretzel.




So-o-o-o . . . if you want to keep your bird from being deadlined for replacement of a leaky carburetor, remember "easy does it" with that carburetor fuel strainer. And it's good maintenance to use a new gasket, or, at least, inspect the old one before you put the strainer back together.

CHECK YOUR CHOPPER FLOATS SO YOU...

# DON'T BUST THE BUBBLE!



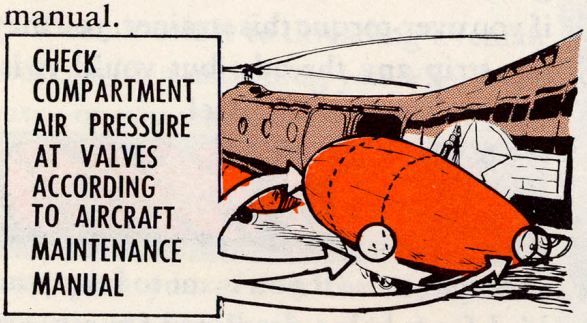
A leak in a dancer's bubble—or in a float on a chopper—can be more than embarrassing . . . it can be downright troublesome!

That's why preventive maintenance is a natural on your Sioux (H-13), Raven (H-23) and Shawnee (H-21C) neoprene floats. They can run a mech ragged pluggin' leaks.

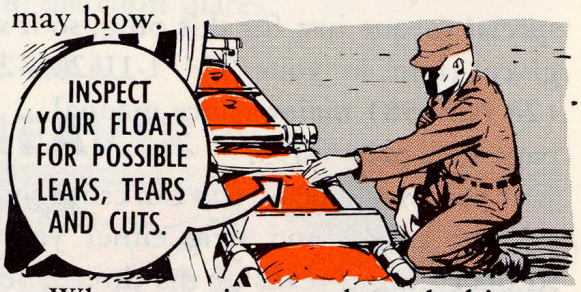
Take the area where your chopper is parked. A good old-fashioned broom is your best bet for keeping the ground free of objects that might cause a puncture in a bag . . . and loss of air.

## INSPECT BAGS

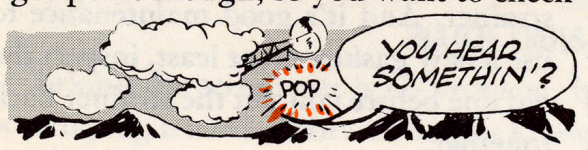
Having the right air pressure in your bags is mighty important. That's why you want to give those floats a daily pressure check. You can use any suitable checking gage. The important thing is that each compartment in the float should be inflated to the PSI pressure given in your bird's maintenance manual.




Temperature and altitude changes can increase these pressures to the danger point though, so you want to check your manual for pressure info. Keep in mind that if your floats don't have a pressure relief valve, you don't want the pressure to build up too high—or the bag may blow.

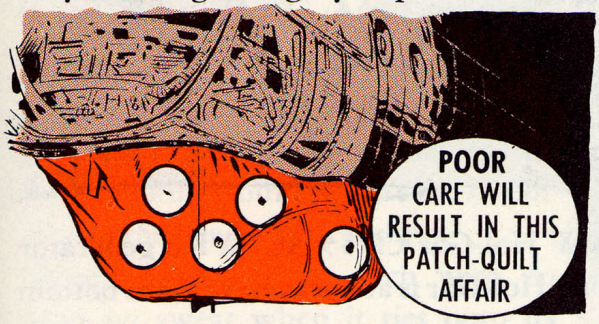



When you give your bags the big eye, look for cuts or tears and worn or frayed fabric. It's a good idea to give your old patches the once-over also, to see that they're holding their own. And if you come across dirt embedded in the neoprene be sure you brush it out. If you don't, that dirt can work its way into the fabric . . . and get you to playin' Sherlock with a magnifying glass looking for a leak later on.



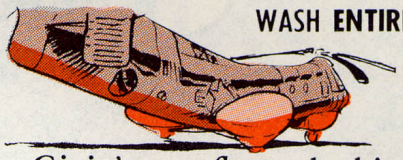
## CLEANING COUNTS

'Course if your bags get the regular attention they need they won't get to lookin' like a patch-work quilt. That's why cleaning is mighty important.




This means if oil or grease is spilled on the bags it should be cleaned off, pronto. You can use dry cleaning solvent, Specification P-S-661, FSN 6850-264-9037, to do the job. The only thing is, after you use the solvent, be sure you follow up right away by washing the soiled area with soapy water.

You can use plain water and non-alkaline soap on your floats after a mission. But if you operate in salt water it's a good idea to use lukewarm water and soap. Washing the floats is 'specially important if your bird roosts in salt water. It can contaminate your floats for real.




Givin' your floats the big wash goes double on the Shawnee. 'Cause more than just the floats touch the water—the whole bottom of your bird rests in it.

So if your Shawnee is set down in salt water, the floats, landing gear and bottom part of the fuselage get the hose treatment. Also, the wheel assemblies want to be taken off and the wheel bearings repacked with grease after each daily operation.

And if your bird has set over eight hours in salt water, you want to remove, disassemble and inspect the floats. The same goes for the landing gear, and wheel and brake assemblies.

Another thing. Check inside the fuselage for water. If you find any you can release it through your drain valves.

On all your choppers you'll find washing the bags will also help you detect punctures—just keep your eyes peeled for the tell-tale bubbles caused by leak.

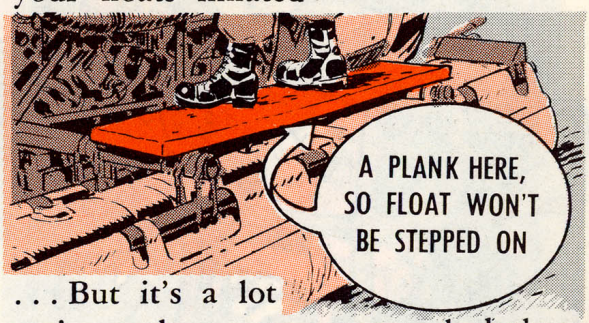
## PATCH 'ER UP

When it comes to stoppin' a leak you're dealing with a hole smaller than the one the boy found in the dike and plugged with his finger. Any big hole is a job for your support.

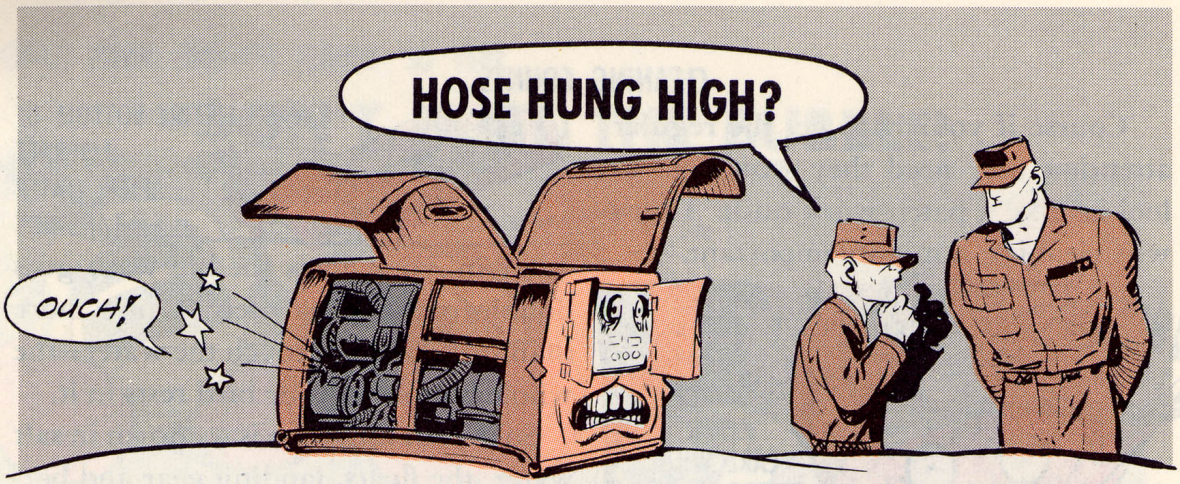
But you can plug small leaks with repair kit, FSN 1630-775-8837 . . . check your -20P for it. All the instructions you need to put the patch on come right with the kit.

One more thing . . . if you have trouble locating the leak be sure to check your inflation valve to be sure the rubber seat is clean, in good condition, and the plug is screwed down tight.

Yessir, it take a heap of PM to keep your floats inflated . . .

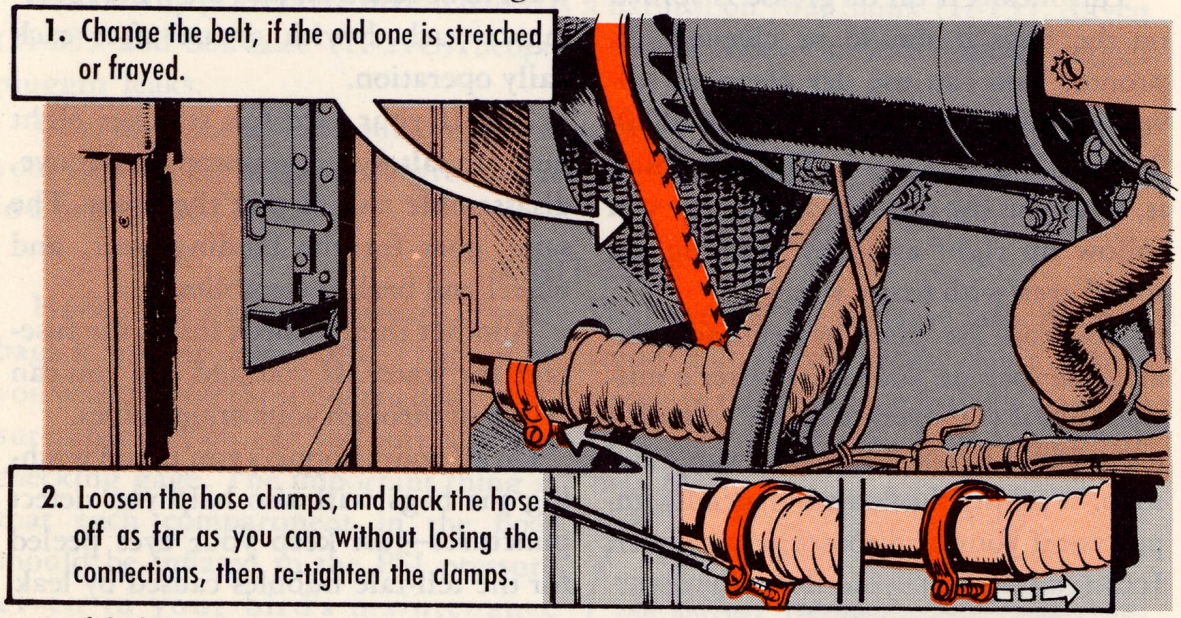



. . . But it's a lot easier on the eyes to prevent a leak than it is to find and fix one.



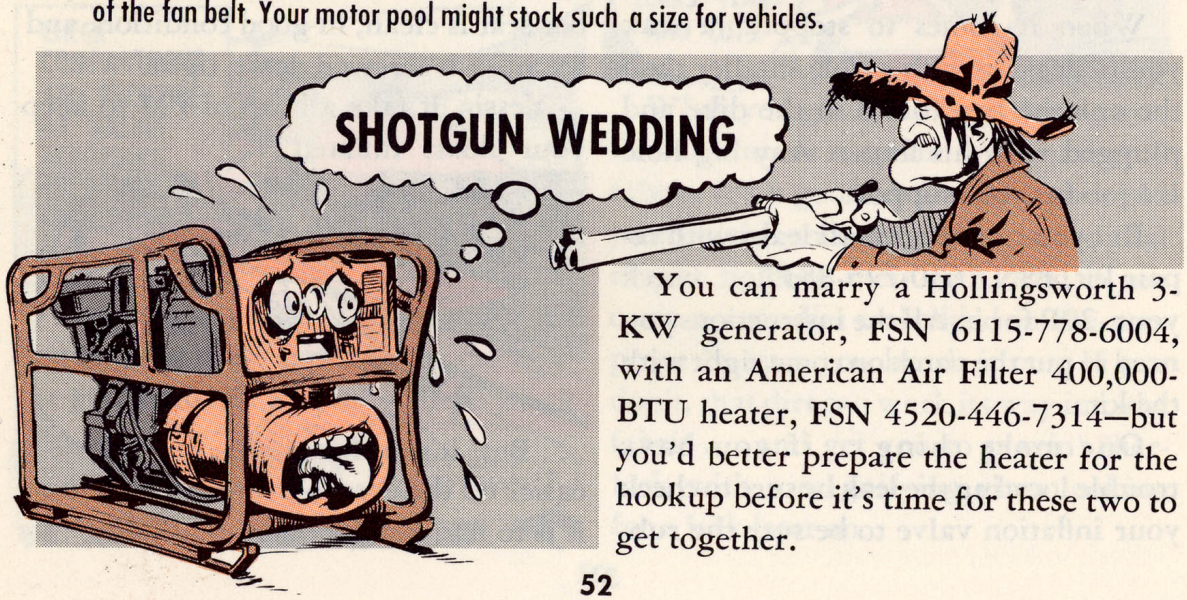

If the lower radiator hose on your 5KW Hol-Gar CE 55-AC/WK6 generator hangs so high it rubs on the fan belt—your Hol-Gar is about to have a wet bottom unless you make one of these changes . . .

1. Change the belt, if the old one is stretched or frayed.



2. Loosen the hose clamps, and back the hose off as far as you can without losing the connections, then re-tighten the clamps.

3. If the belt still rubs against the hose, scrounge another length of flex hose long enough to loop clear of the fan belt. Your motor pool might stock such a size for vehicles.



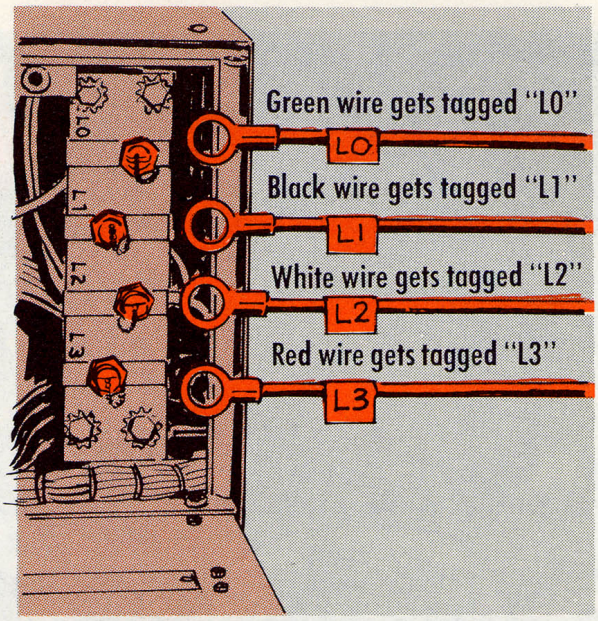

You can marry a Hollingsworth 3-KW generator, FSN 6115-778-6004, with an American Air Filter 400,000-BTU heater, FSN 4520-446-7314—but you'd better prepare the heater for the hookup before it's time for these two to get together.

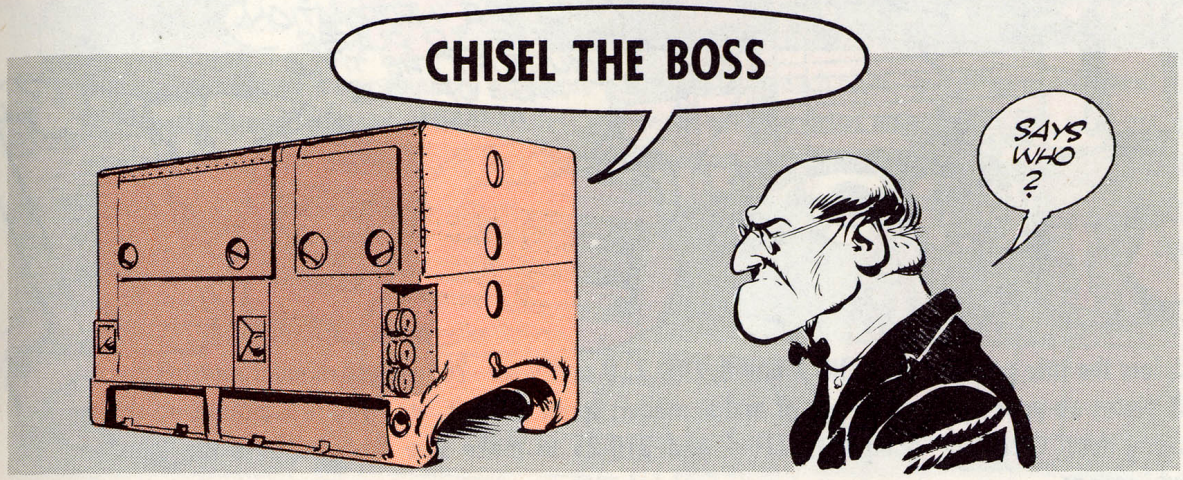
First off, the ¼-in terminal eyes on the heater's four-wire electrical cable are too small to slide over the 5/16-in lugs on the generator's terminal board.

So you have to snip off those terminals, and replace 'em with bigger eyes.

Next, you want to tag each wire to be sure you get the right hookup between the heater motor and the generator. A wrong hookup would reverse the motor and ruin the heater's fuel pump.

Here's how you tag each wire, so there's no sweat when it ties onto its mating lug—




You're right—there's a timing mark missing on some of the new 45KW and 60KW Cummins Model JS-6-G generators.

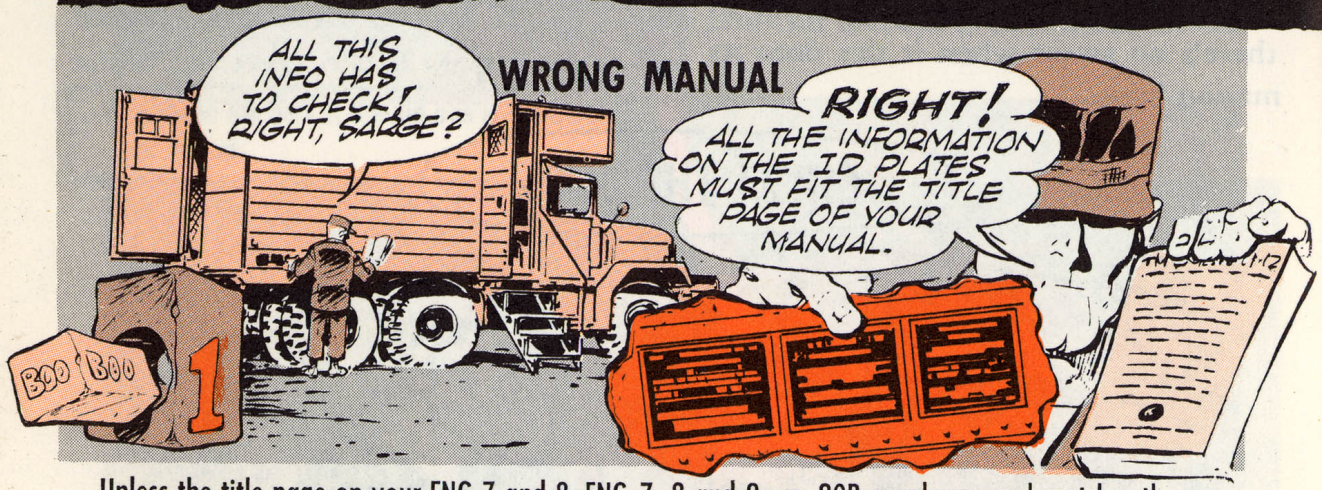
This mark belongs in the boss on the upper left end of the gear case cover. When it's lined up with a matching mark on the accessory drive pulley, your engine is in position to start adjusting the injector and valve setting on the number one cylinder.

Take a look-see, first time you open the left side doors, to be sure the mark is there when you need it for the adjustment job.

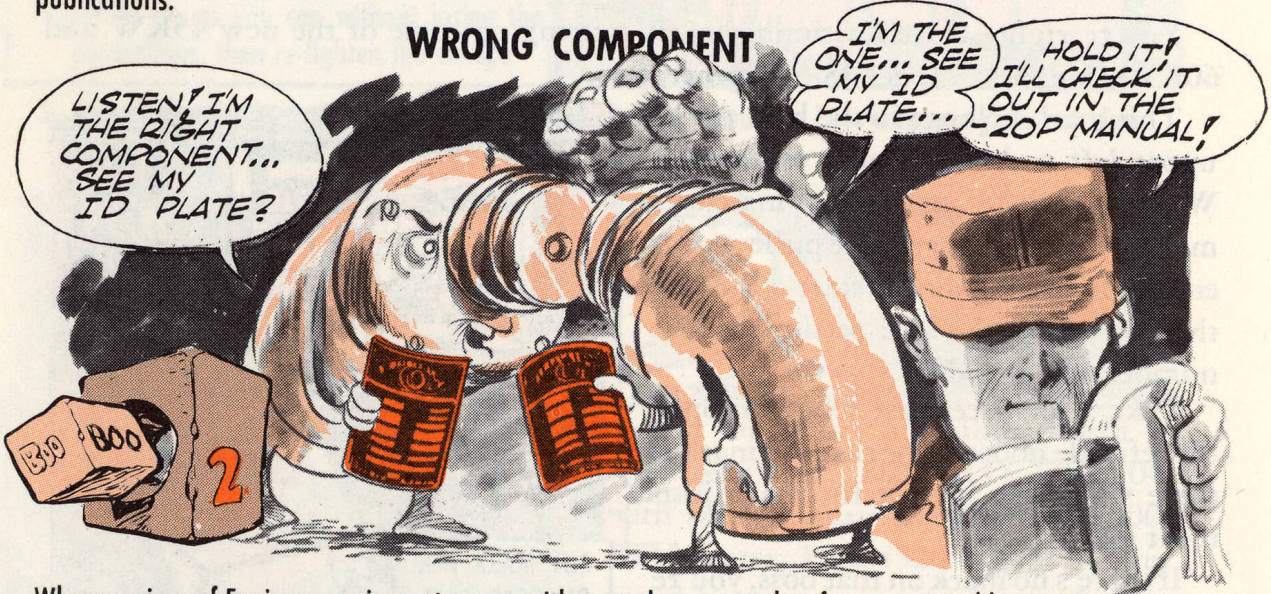
If there's no mark on that boss, you're elected to do some neat and artistic chiseling—like so:

# WHIP THAT

Chasing parts for Engineer equipment,
Because Engineer items—unlike most other
of components and attachments.
With a mix like this, it takes a
shack with parts that won't fit
want to make right before you




Unless the title page on your ENG 7 and 8, ENG 7, 8 and 9, or -20P supply manual matches the ID plates on your rig in all details of make, model, serial number, etc., you're knocking on the wrong door. Check DA pamphlets 310-4 and 310-25 to make sure that you have the latest publications.

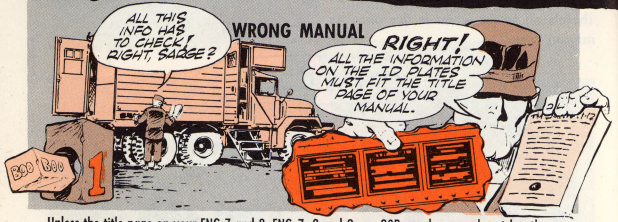



Where a piece of Engineer equipment comes with more than one make of component—like engines, motors, heaters—get your operators to identify the component, then match it up in your parts manual.

# WHIP THAT BOUNCE OF ENGINEER REPAIR PARTS REQUISITIONS

Chasing parts for Engineer equipment, a man can get whipsawed several ways without really trying. Because Engineer items—unlike most other Army equipment—come in assorted brands, models and series, not to mention a variety of components and attachments.

With a mix like this, it takes a savvy parts man to write his requisitions so they don't bounce—or load up the supply shack with parts that won't fit his equipment. So it shouldn't happen to you, here's a quick check on some wrongs you want to make right before you turn loose the requisition—

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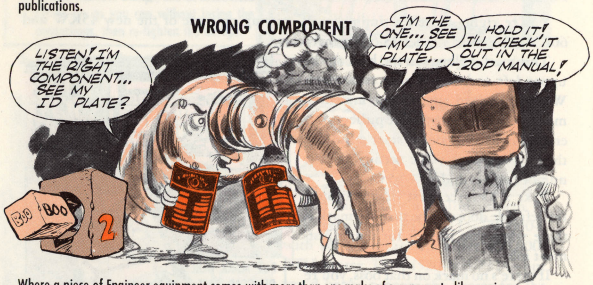
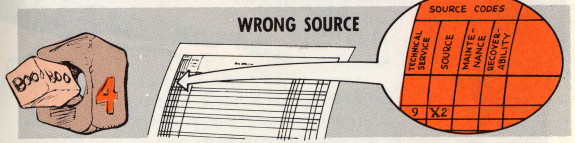
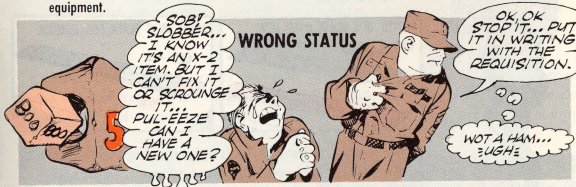



Where a piece of Engineer equipment comes with more than one make of component—like engines, motors, heaters—get your operators to identify the component, then match it up in your parts manual.

Engineer items have many standard hardware parts that look much alike—but differ in one detail like length, thread, material or finish. Unless you check out each detail on parts like this, odds are umpteen to one your req will bring back the wrong part.




The source code in your supply manual tells you which tech service can fill your order. Using this code the first time can save your reqs a lot of travel, and shorten the deadline time on your equipment.




When the source code puts "X2" status on a part, you write "no req" if the part can be repaired, replaced by fabrication, or cannibalized. "X2" parts are expected to last as long as the end item, so a requisition has to have attached writing to justify it.

# BOUNCE OF ENGINEER REPAIR PARTS REQUISITIONS

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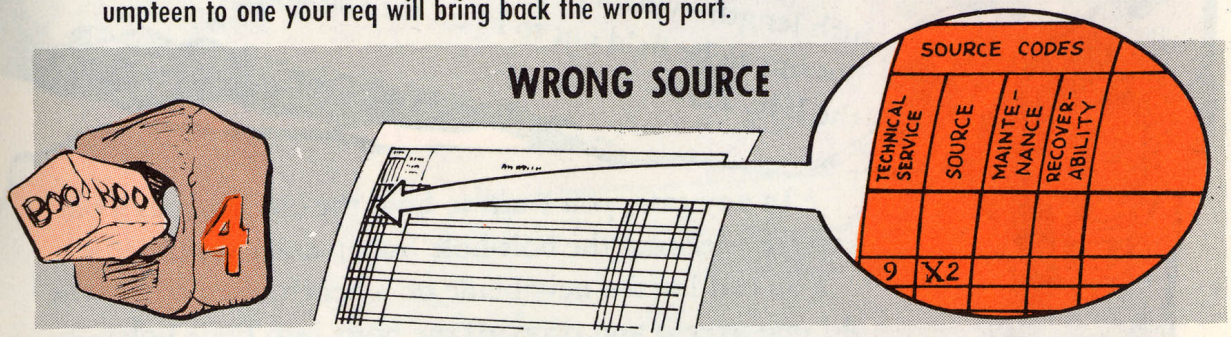


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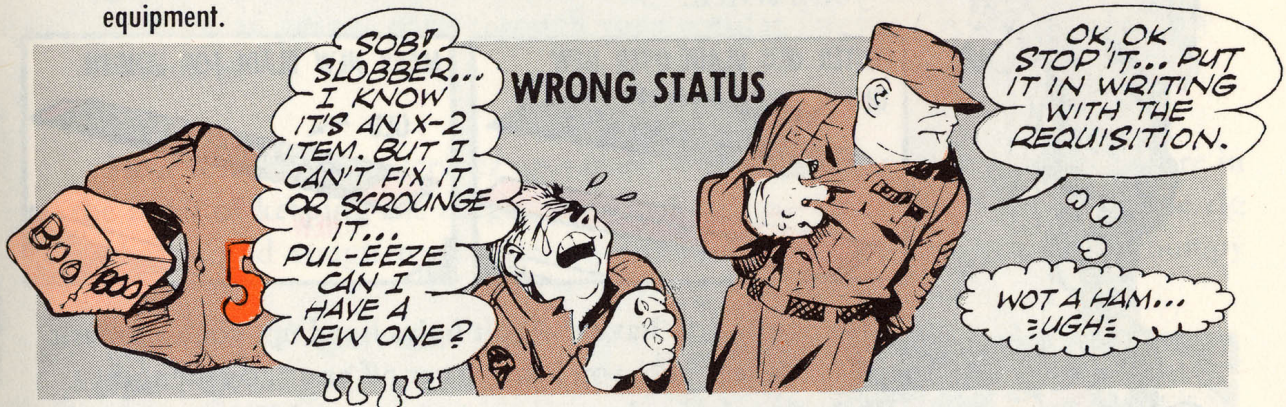


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# BLANKETY BLANK BLADES!!

If your supply people give you a new dozer blade that's too long for your rig—hold the phone.

Chances are you've got the new military standard cutting edge that replaces those tailor made commercial blades you've been using.

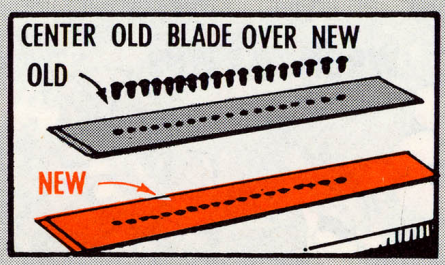
This new military standard blade, stocked as FSN 3830-893-4176, replaces the following FSN's when supplies run out—

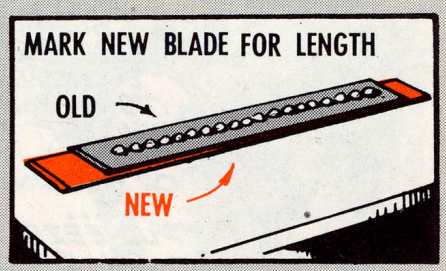
FSN 3830-631-9406 used on Cat D8 9A Series;
FSN 3830-620-0235 used on IHC TD18 and TD20 Models;
FSN 3830-620-2377 (Mfr part no. 298864R1) used on the IHC TD24.

The military standard blade comes only in the 115.88 inch length—which is OK for the IHC TD18 and TD20—but has to be field cut to fit on the Cat D8 9A model and the IHC TD24.

In any case, you want to hold the old blade as a pattern for checking the bolt-hole lineup and overall length.

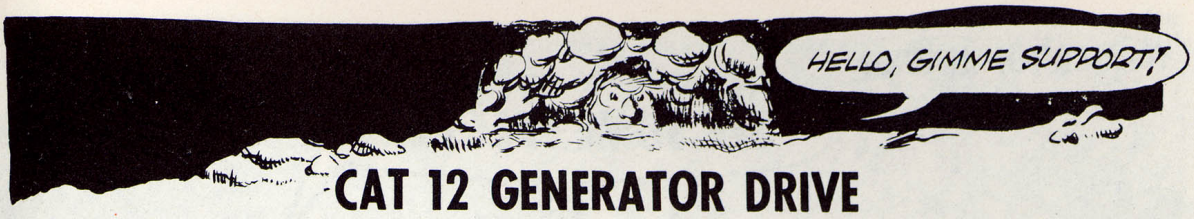
You can lay the new blade on a bench, then center the old one over it and drop all the bolts into their holes—to be sure there's no sweat lining up the new blade when you install it.




Also, while you have the bolt holes lined up, you can mark the new blade where you have to cut off any excess length.

Right then is the time, too, to go on record if the new blade is unsatisfactory in any way. If the bolt holes don't line up, for one thing, you want to fill out a DA Form 2407, Maintenance Request, with a full EIR report and fire it off before sundown the same day.




# CAT 12 GENERATOR DRIVE

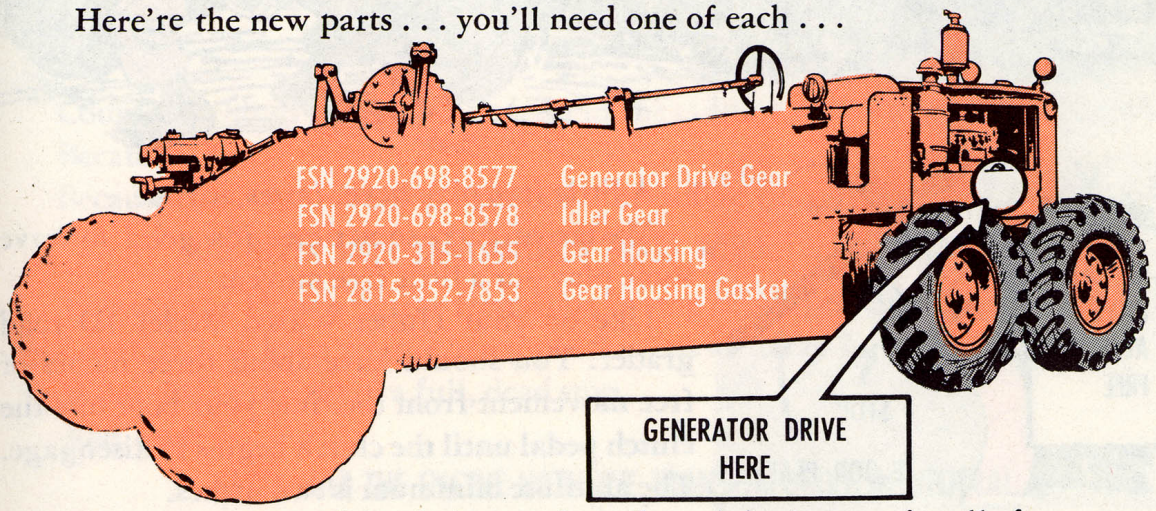
If the generator in your Cat 12 grader with a model D-318 engine won't work because the drive gear and idler gear are worn to nubbins 'way before their time, all is not lost.

Now there's another longer-lasting gear pairing in the supply system, and it's yours for the asking.

These other gears last longer because they run a lot slower—but still fast enough to keep the batteries charged.

Any time your Cat 12 generator gears lose their grip fast, get your support unit to give you a hand.

Here're the new parts . . . you'll need one of each . . .



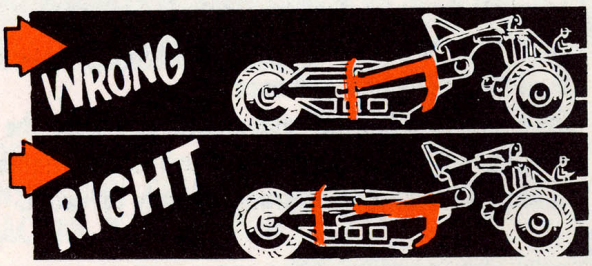

Since the slower drive is larger than the original setup, it calls for a new gear housing and gasket.

You can get the parts through your regular Engineer repair parts supply channels.

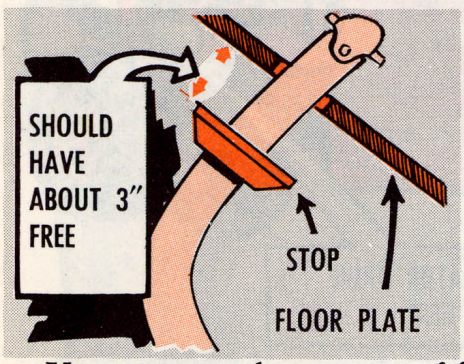
# A GOOD HAUL

Hear tell that some scraper operators, when returning empty to the cut, are in the habit of keeping the tailgate forward and the apron up. This makes the rig topheavy and rough to handle—especially when you're bouncing over bumpy ground.

Experienced operators know that keeping the tailgate back and the apron down gives them a sm-o-o-ther ride, makes for easier handling, and cuts down the chance of tipping over while highballing along teeth-jarring haul roads.



YOUR CLUTCH SLIPPING?




A little free play never hurts anyone.

Matter of fact, sometimes it's good to have some play—or a little free movement.

Like on your Huber-Warco Model 4D road grader. You should have about three inches of free movement from the time your boot hits the clutch pedal until the clutch begins to disengage. The absolute minimum is two inches.

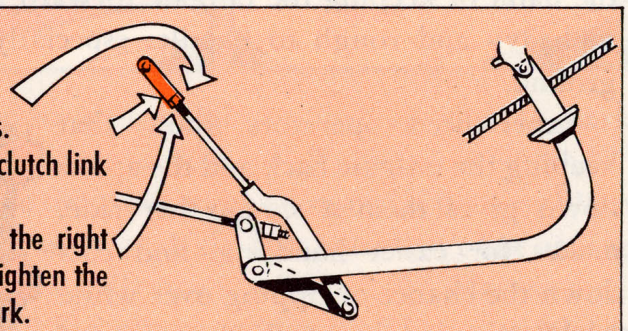
You measure the amount of free play from the bottom of the floor plate to the center of the clutch pedal stop.

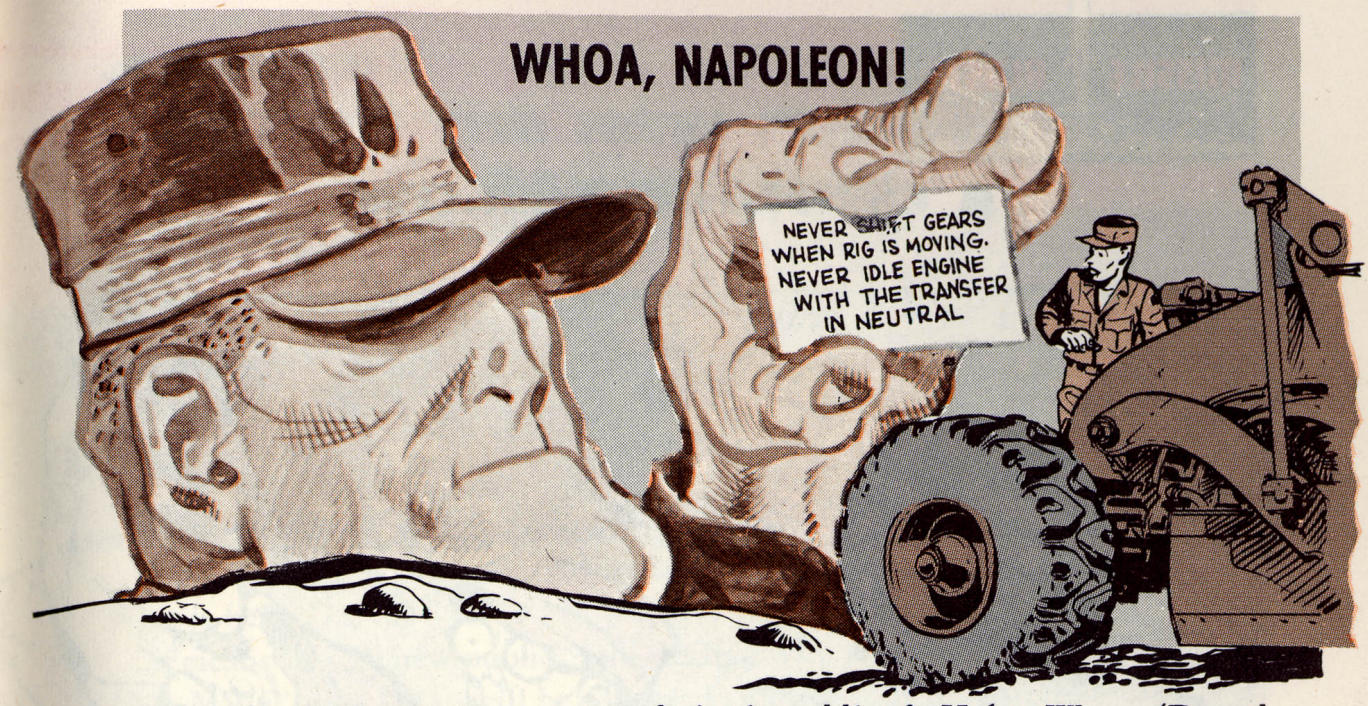
Now, with normal usage, the clutch facings will wear. And, as the facings start to wear, you lose some of your free play. The clutch should be adjusted when the play is cut down to two inches. With less than two inches of free movement, the clutch'll start slipping and'll make for extra wear and tear on your rig.

## ADJUSTING THE CLUTCH

To adjust the clutch, first, loosen the locking nuts. Then, turn the yoke to lengthen or shorten the clutch link to get the movement you need.

Once you've made the adjustment and have the right clutch pedal movement, all you have to do is tighten the locking nuts. And, your grader's ready for work.






Couple of things you never-ever do in the saddle of a Huber-Warco 4D grader. Because why?

Because this beast is built to handle a mite different from most rigs. F'rinstance—

**YOU NEVER SHIFT TRANSMISSION GEARS WHILE THE RIG IS MOVING.**

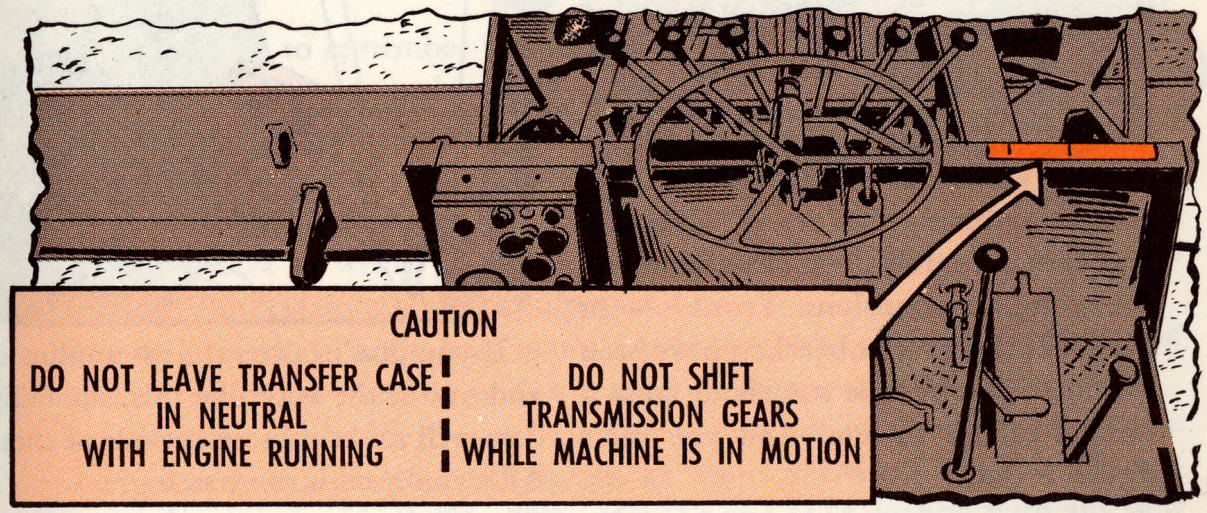
You run the Huber-Warco from start to stop in one gear at a time. When you've got to shift, you keep your chicken-pluckin' paws away from that shift stick until you bring the rig to a full, dead stop.

And, you—

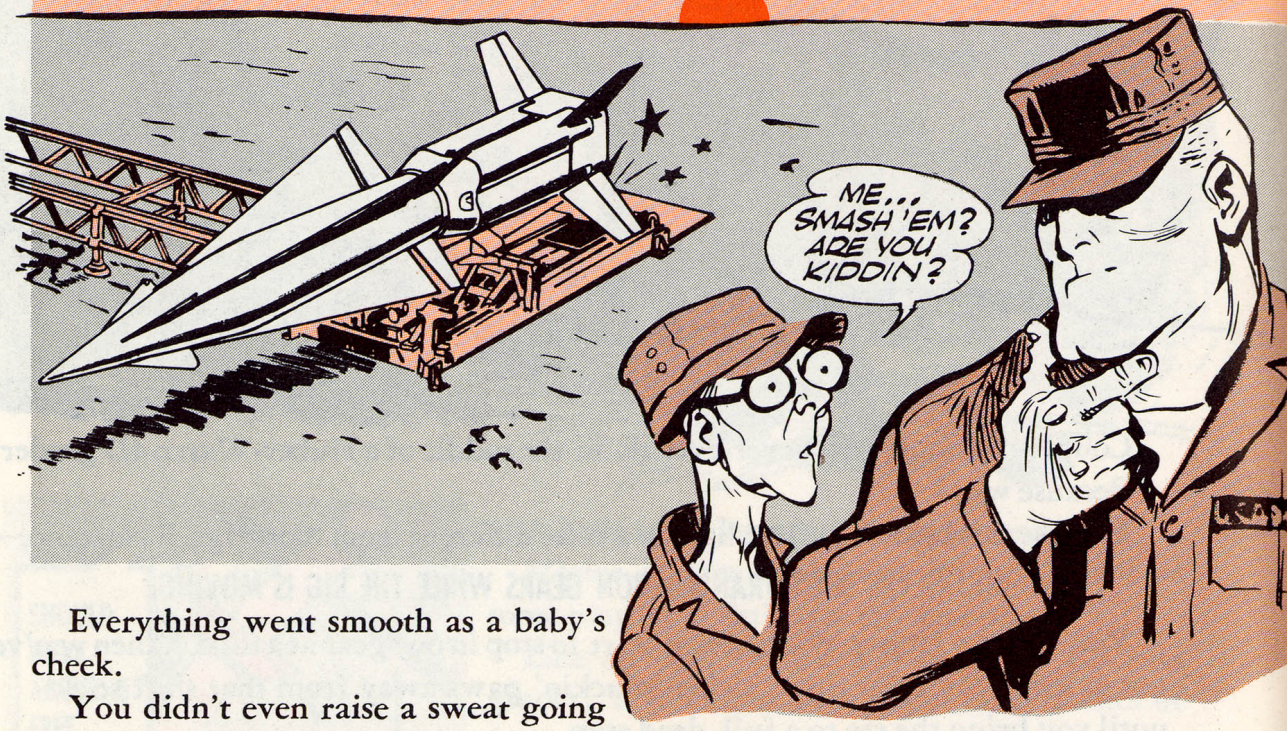
**NEVER IDLE THE ENGINE WITH THE TRANSFER DRIVE IN NEUTRAL.**

Like the TM tells you, the upper transfer shaft gets no lube while this drive is in neutral. So you shift it—one way or the other—when the engine is idling.

To be sure NOBODY misses this message, better spot this warning plate on your Huber-Warco's dash, dead ahead of those shift sticks—



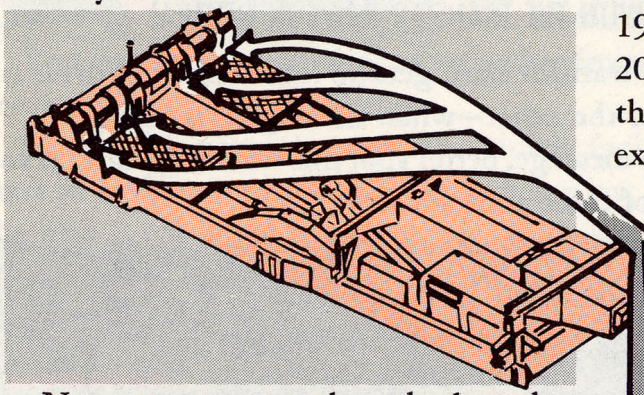
# A CRUSHING BLOW



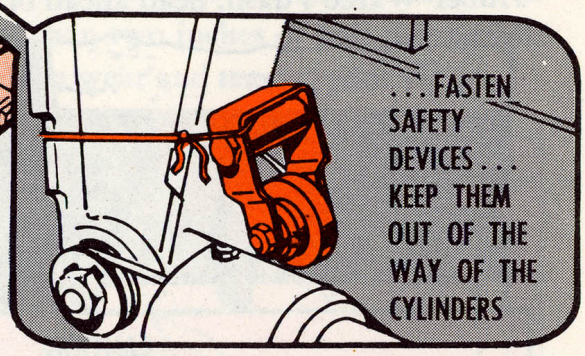

Everything went smooth as a baby's cheek.

You didn't even raise a sweat going through your air bleed procedures to exercise your Nike-Hercules launcher.

Too bad you hadn't remembered what it says in paragraph e (I) (a) on page 198.4.1 of change 6 to TM 9-1440-250-20. You know . . . make sure you secure the safety device assemblies before you exercise the launcher.



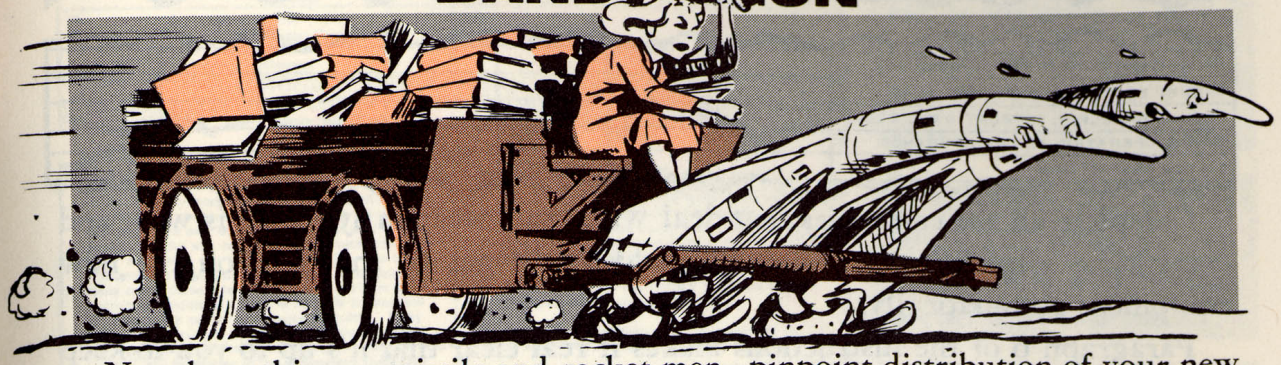
Now you go to replace the launcher rack assemblies (platforms) when you spot the four safety device assemblies on the trunnion extensions. **Trouble** — in big black letters. The brackets have been creamed—like maybe somebody took a sledgehammer to 'em. And you can't figure it out.




If you don't fasten the assemblies up and out of the way like this, the cylinders will make mincemeat out of them. All's you need is some string.

USE DA FORM 12-32 TO . . .

# GET ON THE NEW PUBLICATIONS BANDWAGON



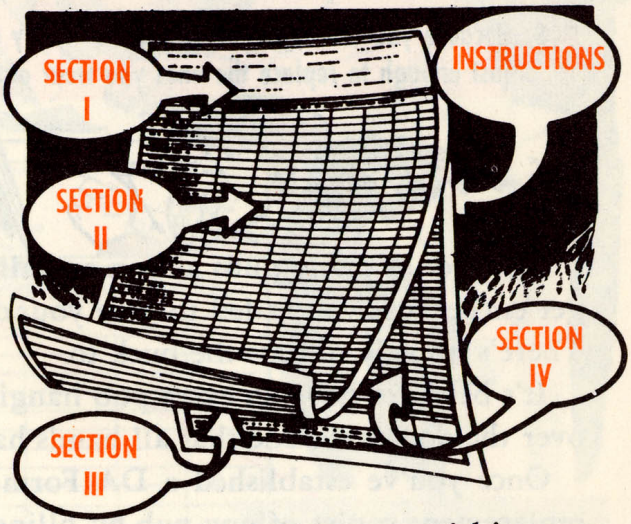
Now hear this you missile and rocket men—pinpoint distribution of your new pubs is here. DA Cir 310-61 (14 Dec 61) tells all about it.

It means that all new publications dealing with your system—TM's,TB's, SM's, SB's, MWO's and LO's—will be delivered right to your organization.

It also means you'll get the pubs you need—when you need them.

And you'll be kept up to snuff automatically on all changes and revisions and new publications just as soon as they're put into print.

There's no magic wand you gotta wave to get with this jet-propelled pub program. All you have to do is make sure DA Form 12-32, "Requisition For Initial Distribution of Publications and Blank Forms", is filled out pronto—and properly—and sent to the AG Publications people in St. Louis. The full address is on the form.




DA Form 12-32 is a five-section form. But, aside from the first page which spells out the purpose and instructions, Sections I, II and V are the only parts you rocket and missile guys have to fill out.

The main thing to remember is that DA Form 12-32 lets you order in advance — by category and quantity — all the pubs dealing with your system which may be published.

You don't have to worry about the pub numbering system or picking out publications for certain pieces of equipment.

All you do is tell St. Louis how many copies of a pub (changes, revisions and new pubs) you want—dealing with a certain category—and the job's done.

For example . . . take the Ground Handling, Support and Service Equipment category in Section II. If your CO decides he wants 5 TM's, 4 TMP's, 4 Type 4 SM's and three copies of all SB's, TB's, MWO's and LO's dealing with any new



P.S. MORE

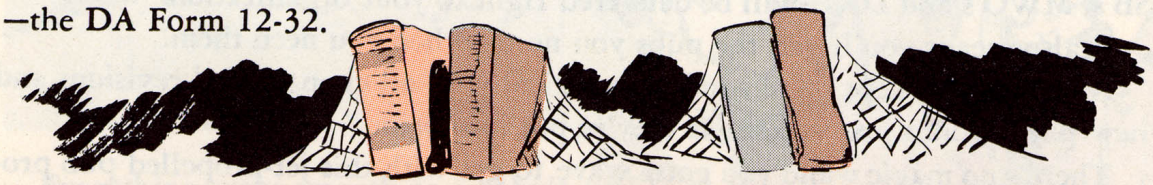
piece of ground handling equipment—all you do is fill out that category—like so.

| SECTION II - OPERATION AND ORGANIZATIONAL MAINTENANCE LITERATURE *(1st and 2d Echelon)* | | | | | | | |
|---|---|---|---|---|---|---|---|
| CATEGORIES OF RESPONSIBILITY *(ChemC - CofE - OrdC - QMC - SigC)* | MEDIA IN WHICH OPS & ORG MAINT LITERATURE WILL BE PUBLISHED | | | | | | |
| | TM | TMP | TYPE 4 SM | SB | TB | MWO | LO |
| AMMUNITION *(Other than atomic wpns)* | | | | | | | |
| GROUND CONTROL EQUIPMENT | | | | | | | |
| GROUND HANDLING, SUPPORT & SVC EQUIP | 5 | 4 | 4 | 3 | 3 | 3 | 3 |
| MISSILE OPERATION AND MAINTENANCE | | | | | | | |
| SYSTEM DESCRIPTION | | | | | | | |

Complete all the categories that deal with your weapon system this way, and every time something new hits the field you'll get all the pubs on the new equipment automatically.

Paragraph 6 of the instructions makes it real clear that it's up to you to keep St. Louis posted on all changes and revisions on your pub demands—so give a periodic look-see at your pub requirements.

Here're a couple of more things to bear in mind when you fill out—or change—the DA Form 12-32.



1. **A good publications library is one of the keys to bigger and better preventive maintenance.**
2. **The cost of a manual is peanuts—compared to the cost of the equipment or the penalty for not keeping it combat ready at all times.**
3. **Because you are expected to order as many copies of each pub as you need, St. Louis will stock just enough to replace the ones you wear out and to take care of new outfits.**

So order as many pubs as you actually need—if you need more later and can't get 'em because you failed to give your demands enough thought, it's your baby. There's nobody to pass the buck to.

It's better to have an extra pub hanging around than posting an armed guard over the dog-eared one that all hands have to use.

Once you've established a DA Form 12-32 account at St. Louis you can get replacement copies of any pub by filling out a DA Form 17. The DA Form 17 goes direct to the Publications Center in St. Louis—it does not go to the pubs office on your post.

Replacements apply only to pubs that you've ordered in your initial DA Form 12-32. You've got to hit St. Louis with a change to the first form or—if it's a one-time shot—fire off a DA Form 17 with full justification for your special request.

## Now, here's a model to help you when you fill out the DA Form 12-32.

**REQUISITION FOR INITIAL DISTRIBUTION OF PUBLICATIONS AND BLANK FORMS**
*(MISSILE & ROCKET LITERATURE FURNISHED IN QUANTITY DETERMINED BY USING ORGANIZATIONS)*
*(AR 310-2)*

DATE: 1 JAN 62
ACCOUNT NUMBER:
TYPE OF REQUISITION: ☐ INITIAL ☐ CHANGE ☐ REVISION

TO: Commanding Officer
USA AG Publications Center
1655 Woodson Road
St. Louis 14, Missouri

FROM: Btry B, 2nd M. L. BN
68th ARTY
EDISON, NEW JERSEY

PURPOSE, APPLICABILITY, AND INSTRUCTIONS FOR PREPARATION OF DA FORM 12-32

1. These instructions are applicable only to the Active Army [illegible] missile ... literature account up-to-date. Changes in category and/or quantity requirements must be submitted promptly. Notice of change of address must be submitted promptly. The date on which registered mail can be accepted at the new address must be stated in the notice. A revision may be submitted in lieu of a change whenever the requisitioner so desires. The publications center commander may request a revision of an account's requisition whenever he finds it desirable because of the number of changes submitted. If, by change or revision, a requisitioner desires to delete entirely a previously established requirement, the word "none" will be written in the appropriate block *(See paragraph 7)*.

7. Each requisitioner must study carefully the categories of responsibility and publications [illegible] media. The media ...

f. Sec II. Delivery units must specify requirements ... Sec II for all publications pertinent to operation and maintenance of mission equipment. Organization maintenance units **NOT** having a delivery mission will **NOT** requisition for literature pertinent to delivery units.

g. Sec III & IV. For use of field and depot maintenance organizations only, as indicated.

h. Sec V. Self-explanatory. Each authorized requisitioner must complete the items in this section.

TYPED NAME AND TITLE OF REQUISITIONER

SIGNATURE OF REQUISITIONER

DA FORM OCT 61 12-32

1

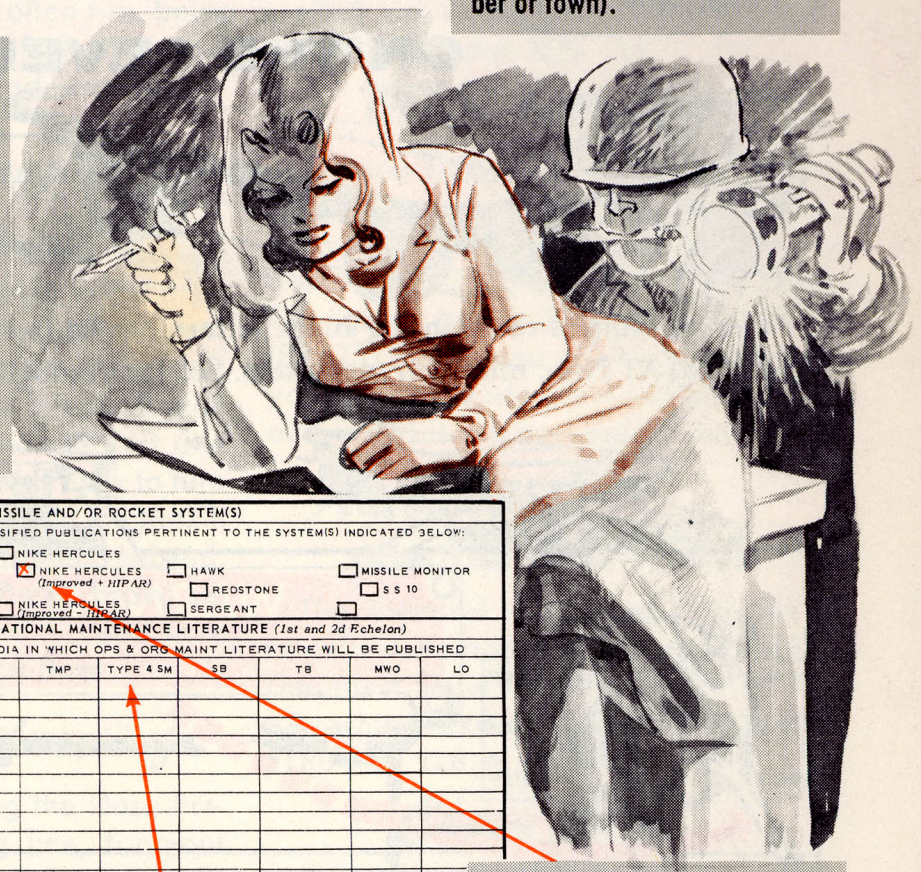
"DATE" BLOCK—Make sure it's written military style.

TYPE OF REQUISITION—Easy, the first time check the initial block. After that a change or a revision.

ACCOUNT NUMBER — Nothing here. St. Louis will assign it, unless you have an established account with the AG center.

"FROM" BLOCK—Your full unit name, location (post, APO number or town).

If you want classified and unclassified pubs, place "X" in each box. If you want just one make sure you "X" the type you want. Don't forget. If there's a difference of three or more copies between your classified and unclassified pub demands—you've gotta send in two separate DA Form 12-32 to complete the order.



**SECTION I - MISSILE AND/OR ROCKET SYSTEM(S)**

THIS REQUISITION IS FOR ☐ CLASSIFIED ☐ UNCLASSIFIED PUBLICATIONS PERTINENT TO THE SYSTEM(S) INDICATED BELOW:

☐ NIKE HERCULES
☐ CORPORAL ☐ LACROSSE ☒ NIKE HERCULES (Improved + HIPAR) ☐ HAWK ☐ MISSILE MONITOR
☐ HONEST JOHN ☐ NIKE AJAX ☐ REDSTONE ☐ S S 10
☐ LITTLE JOHN ☐ NIKE AJAX/HERCULES ☐ NIKE HERCULES (Improved - HIPAR) ☐ SERGEANT ☐

**SECTION II - OPERATION AND ORGANIZATIONAL MAINTENANCE LITERATURE** *(1st and 2d Echelon)*

| CATEGORIES OF RESPONSIBILITY (ChemC - CofF - OrdC - QMC - SigC) | MEDIA IN WHICH OPS & ORG MAINT LITERATURE WILL BE PUBLISHED | | | | | | |
|---|---|---|---|---|---|---|---|
| | TM | TMP | TYPE 4 SM | SB | TB | MWO | LO |
| CBR COLLECTIVE PROTECTION EQUIP | | | | | | | |
| CBR INDIVIDUAL PROTECTION EQUIP | | | | | | | |
| CW/BW WARHEAD | | | | | | | |
| | | | | | | | |
| AIR COMPRESSORS | | | | | | | |
| AIR COND, HEATERS, FANS, AND BLOWERS | | | | | | | |
| ELEVATORS *(Special purpose)* | | | | | | | |
| LIQUID OXYGEN AND $CO^2$ EQUIPMENT | | | | | | | |
| POWER GENERATING EQUIPMENT *(Eng)* | | | | | | | |
| PUMPS AND LUBRICATORS | | | | | | | |
| SHOWER UNITS | | | | | | | |
| TOPOGRAPHIC EQUIPMENT | | | | | | | |
| TRACTORS, LOADERS, AND FFTG EQUIP | | | | | | | |
| | | | | | | | |
| AMMUNITION *(Other than atomic wpns)* | | | | | | | |
| GROUND CONTROL EQUIPMENT | | | | | | | |
| GROUND HANDLING, SUPPORT & SVC EQUIP | 5 | 4 | 4 | 3 | 3 | 3 | 3 |
| MISSILE OPERATION AND MAINTENANCE | | | | | | | |

Place "X" in your missile system. If you have two or more mission weapons, place an "X" in both if quantity of pubs you want is the same. If quantity is different, make out separate DA Form 12-32 for each system requirement.

Fill in your requirements in each category as needed as shown earlier.

This type 4 SM is a stock list of components of sets, kits and outfits.



PS MORE

These two blanks must be filled in by your outfit.

**SECTION V - REQUIREMENTS FOR GENERAL LITERATURE AND DA FORMS**

| | |
|---|---|
| 1. REQUISITIONER WILL INDICATE HIS REQUIREMENTS FOR ANY *UNCLASSIFIED* LITERATURE OF A GENERAL NATURE *(Not definable by any of the categories of responsibility listed in Section II, III or IV)* WHICH MAY BE PUBLISHED IN RELATION TO HIS MISSION SYSTEM(S) OR THE MISSILE AND ROCKET SYSTEMS IN TOTO, BY WRITING AN APPROPRIATE NUMBER IN THE BOX HEADED "QUANTITY".. | QUANTITY: Three |
| 2. REQUISITIONER WILL INDICATE BY WRITING "YES" OR "NO" IN THE BOX HEADED "STMT" WHETHER OR NO NOT HE REQUIRES MAINTENANCE AND/OR SPOT CHECK INSPECTION FORMS AND DAILY, WEEKLY AND MONTHLY CHECK SHEET FORMS *(DA Form 9- series)* PERTINENT TO THE MISSION SYSTEM(S) HE SPECIFIED IN SECTION I. | STMT: Yes |

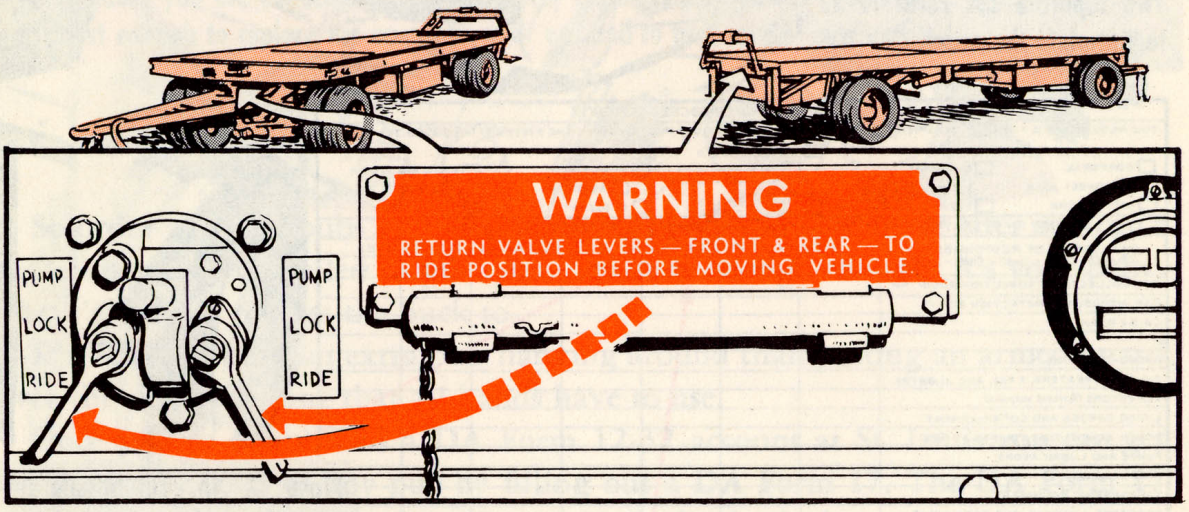
4 GPO 814479

This tells St. Louis how many copies of unclassified general articles and magazines dealing with your system you want.

This gets you spot check inspection forms dealing with your system.

## ON THE LEVEL

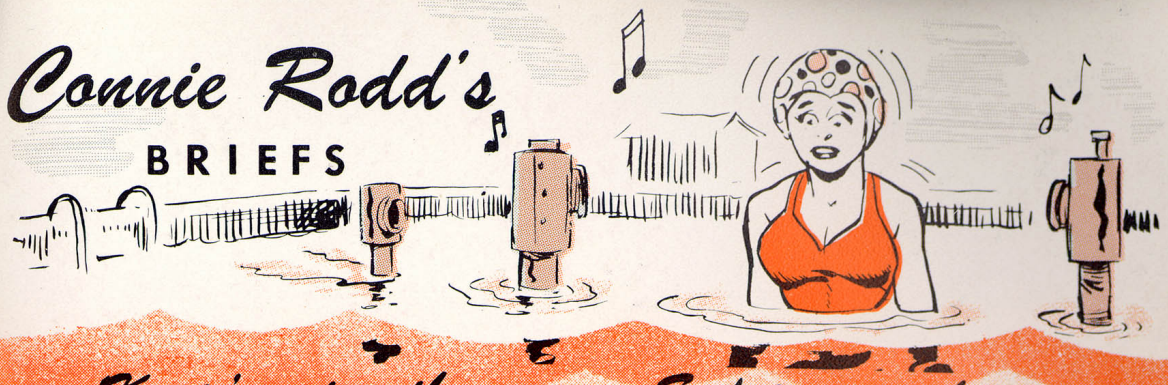
The warning is there in big black letters on the front and rear of your M261 and M261A1 Nike missile transporters. See for yourself.




But . . . your support people have worked on more'n a few transporters that've been "crippled" because they were moved with the levers in PUMP or LOCK, instead of RIDE. Once the wheels start to roll with the levers in a wrong position, the insides of the transporter's tie-down cylinder are headed for a beating.

And that's not all. The tilt pump valves are thrown out of shape, which means you won't be able to tilt the transporter to level the bed.

# Connie Rodd's BRIEFS



## Keep 'em together

You tankers who use the M73 7.62-mm machine gun . . . don't go switching the back plate with the solenoid assemblies between weapons. Before you get an M73, the solenoid is adjusted for that gun. When you put it on another weapon, it'll cause other changes at the same time—like uncontrolled fire, being able to fire with the safety on or not being able to fire—period.

## M60 tank starting tip

Before you start your M60 tank be sure you have the shift lever in P (Park), brake set, and the steering wheel centered straight ahead. Anytime the shift lever is in P (Park) or N (Neutral) with the brake **not** applied you're just one twist away from trouble. It's easy to turn the wheel off center and then the tank'll pivot in the direction the wheel is twisted. So-o-o-o, shift lever P (Park), brake set and wheel straight ahead . . . and save the twisting for the dance floor.

## M59 APC hose info

Having trouble getting the Hose Preformed, engine cooling line, for your M59 APC? The hose is listed on page 24 of TM 9-2300-203-20P (Oct 58) under FSN 2930-203-0694. Try ordering it under FSN 2930-653-9223, the new number. (It might help to include the old number, too.) There are plenty of hoses at the depots.

## Safety pin what am

Takes only 10 minutes, but could mean a life-time. Putting a safety pin and lanyard on the right carrying handle of your 24-ft reserve chute, that is. These'll safe up the right connector snap when you're using the "H" harness parachutist equipment. The full scoop's spelled out in Urgent MWO 10-1670-214-20/1 (24 Jan 62).

## M151 ball joints

Getting balled up trying to order a Socket Assembly, ball joint lower arm, for your M151 ¼-ton truck? Ask for it under FSN 2520-678-1362 (8342320). The upper arm is FSN 2530-678-3076 (8342319), but you don't order it unless you can give a complete justification, on account of it is a non-supply item.

## Automotive general mechanics

The General Mechanics Tool Kit is now the Automotive Mechanics Tool Kit. The latest SM is 10-4-5180-A13 (31 Jan 62), which takes the place of SM 9-4-5180-A58 (28 Aug 59).

## Chain clamp

If you break a chain clamp on your M62 wrecker's V-type universal towbar, FSN 4910-735-6056, there's no need to get a whole new towbar. Just order the Clamp, assy, axle chain, FSN 2590-679-9648 that's listed in Change 4 (8 Feb 62) to TM 9-2320-211-20P.

**Would You Stake Your Life on the Condition of Your Equipment?**

KEEP THE
"PREVENTIVE"
IN
PREVENTIVE
MAINTENANCE
PM